July 28, 2014

John Laird, Secretary for Natural Resources
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Re: The Bay-Delta Conservation Plan (BDCP) and its Impacts on Regional Sustainability in the North State

Dear Secretary Laird:

The North State Water Alliance (*Alliance*) provides detailed comments today on the Bay-Delta Conservation Plan (BDCP) and the related environmental documents. With its comments, the *Alliance* provides detailed supporting technical analyses.

The *Alliance* has appreciated the efforts by the Governor this year to advance a comprehensive California Water Action Plan (Action Plan). We re-affirm the commitment we made to the Governor in our February 24, 2014 statement that we share the Action Plan's overarching goal to "meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades." In partnership with state and federal agencies, the *Alliance* partners are expending their energy and resources advancing local and regional water management to advance regional sustainability for the Sacramento Valley and the watersheds upstream of the Bay-Delta. The *Alliance* partners' efforts support many beneficial purposes, including cities and communities, farms, fish, birds and recreation. ***Now is the time for progress to develop the infrastructure and the regulatory and operational certainty necessary to achieve the objectives in the Action Plan.***

Today, to advance our region's sustainability, we are providing detailed technical comments expressing our concerns with the current BDCP. The operations proposed by state and federal agencies in the BDCP pose a grave threat to our ability to serve water for various north state beneficial purposes—both now and into the future. As the *Alliance* has consistently stated, California needs to improve its water supplies, not just improve sharing across regions. The *Alliance* believes that the BDCP, as currently drafted and described, does not solve the state's water supply reliability problem, does not further the co-equal goals, and has the potential to cause significant impacts to the north state. Most vividly, the BDCP appears to be designed to require additional flows into the Delta that would directly reduce available water supplies, both surface and groundwater, for the north state's economy and environment. Unfortunately, the BDCP and its environmental document do not identify or sufficiently address these impacts.

On December 3, 2013, the *Alliance* presented our paper "BDCP and the Further Need for Statewide Solutions" that articulated a practical approach to measure the BDCP against four important policy pillars: regional sustainability, no redirected impacts, water rights protections and the co-equal goals. The *Alliance* has called upon technical experts of various disciplines to advise us and support our efforts for regional sustainability. Now, to assist us in reviewing the BDCP documents, several of these experts have prepared technical reports analyzing the BDCP documents, which are technical supplements with our detailed comments available at www.northstatewater.org. Our review indicates the following:

- The modeling supporting the BDCP is flawed, outdated and relies upon unrealistic assumptions regarding operations with climate change. The BDCP technical analysis does not support project approvals and needs to be updated to ensure that the best available scientific tools are used to evaluate the BDCP's impacts.

- Problems and uncertainties in the BDCP project elements and technical analyses concerning salmonids and pelagic fish demonstrate that the BDCP will not meet the biological needs of covered salmonid and pelagic fish species and is more likely to harm these species than contribute to their recovery.

- The BDCP lacks an adequate and reliable source of funding.

To be clear, these comments are not academic. If these issues are not adequately and clearly addressed up front in this process, then the BDCP and related state and federal processes could and will likely redirect impacts--both water supply and financial--to the north state. The BDCP's proponents have repeatedly given various assurances that this will not happen, but the draft BDCP documents leave open the possibility that the BDCP and its operations will not reflect those assurances.

The Brown Administration should not advance or tolerate actions that redirect impacts from the Bay-Delta to upstream areas and thus impede upstream efforts to maintain or promote regional water sustainability. To avoid this conflict, the *Alliance* strongly urges the Brown Administration to re-focus its efforts towards a more coordinated approach to managing the Delta as called for in the Action Plan.

The *Alliance* was formed around a common passion that the region formed by the Sacramento Valley and the adjacent Sierra Nevada and Coast Ranges is a truly unique place tied together by its water resources. On the leading edge of balancing ecological, economic and social sustainability, the region is an *exceptional* place to live, work and raise a family. The region joins together a world-renowned mosaic of natural abundance: productive farmlands and forests, wildlife refuges and managed wetlands, the State Capital, other dynamic cities and vibrant rural communities, and meandering streams, creeks, canals, and rivers that support and feed fisheries and natural habitats knitted into the landscape. The north state is home to all of this, it is an *essential* part of the state's water resources and vital to our long-term economic and environmental future.

The *Alliance* looks forward to engaging with you, the Brown Administration, the BDCP proponents, and various other parties to craft strategies that improve water sustainability statewide.

Sincerely yours,

David Guy
President
Northern California Water Association

Mike McKeever
Chief Executive Officer
Sacramento Area Council of Governments

John Woodling
Executive Director
Regional Water Authority

John Kingsbury
Executive Director
Mountain County Water Resources Association

Roger Niello
President and CEO
Sacramento Metro Chamber

cc: Federal and State Officials
NSWA Participants

North State Water Alliance (NSWA) Comments on Draft Bay Delta Conservation Plan, EIR/EIS, and Implementing Agreement July 28, 2014

These comments are submitted on behalf of the North State Water Alliance (NSWA) and the parties listed on Exhibit A attached hereto. The NSWA appreciates this opportunity to provide these comments on the proposed draft Bay Delta Conservation Plan (BDCP or Plan), draft Implementing Agreement (IA) and draft environmental impact report/environmental impact statement (DEIR/EIS). We first summarize our major concerns with these documents. We then present our detailed comments on the BDCP, IA, and DEIR/EIS. Because the BDCP states that the Plan and supporting documents are incorporated in the DEIR/EIS, our comments on the BDCP should also be considered comments on the DEIR/EIS.

I. INTRODUCTION

The NSWA is a growing coalition of cities, counties, water providers, business, agriculture, and community groups in Northern California. Our common geography and interests have brought us together to work closely on water issues. Our mission is to promote responsible statewide water solutions that protect the economy, environment and quality of life for the North State and for all Californians. The North State region spans an extraordinary mix of cities and rural communities, forests, mountains, farmlands, wildlife refuges and wetlands.

The NSWA understands and appreciates the need to find a comprehensive solution to California's water supply reliability problems, and meet the coequal goals for the Delta. The NSWA supports comprehensive statewide water solutions in California that include: (i) increased investment in regional water storage projects and infrastructure; (ii) water conservation as a way of life; (iii) an operational plan for the state's water systems to fulfill obligations to the North State; and (iv) water rights and supply assurances. With these guiding principles in mind, the NSWA has reviewed and measured the BDCP against the following policies to determine whether it will affect our ability to assure sustainable water supplies for the economy and environment within the region, both now and for the next 50 years. Most of these policies were articulated in the Sacramento San Joaquin Delta Reform Act of 2009 (Delta Reform Act), which expressly recognized the unique nature of the North State upstream of the Bay-Delta. One reflects a commitment regarding areas upstream of the Delta by spokespersons for both the federal and state governments.

- **Regional sustainability**: The state policy on regional sustainability (Wat. Code, § 85021) mandates that "each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use

efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts." Water resources managers continue to implement this state policy. The BDCP, State Water Resources Control Board (SWRCB) planning, and other Delta actions should not interfere with or stifle upstream efforts to maintain or promote regional water sustainability and self-sufficiency in the North State.

- **Water rights protections:** Water supplies for all beneficial purposes in the North State depend upon the exercise of water rights and contracts. As a result, the Legislature expressly recognized that water rights and area-of-origin provisions in the North State shall not be impaired or diminished as a result of any program or project in the Bay-Delta. (Wat. Code, § 85031.) Water rights, contracts and area-of-origin priorities must be recognized and fully implemented by state and federal agencies to ensure reliable supplies for all water uses and needs in our region. These water rights also provide a solid foundation for the operation of the state and federal water projects, thus helping to advance active water management throughout California.

- **No redirected impacts**: The Governor, Secretary of Interior and policy leaders in the BDCP process have emphasized that the BDCP will not redirect any impacts to areas upstream of the Delta. In their July 25, 2012 statement, the Governor and Secretary confirmed that "State and U.S. governments will make sure implementation of BDCP will not result in adverse effects on the water rights of those in the watershed of the Delta, nor will it impose any obligations on water users upstream of the Delta to supplement flows in and through the Delta." The North State is neither a party to nor a direct beneficiary of the BDCP; thus, there must be no resultant impacts to water supplies or the economy and environment in the North State.

- **Coequal goals**: The state's co-equal goals call for "providing a more reliable water supply for California." (Wat. Code, § 85054.) This includes areas in the North State upstream of the Bay-Delta, where water supply entities will provide reliable water supplies for the region. More specifically, this includes more reliable water supplies for all beneficial uses, including cities and rural communities, farm lands and forests, refuges and managed wetlands, recreation and the meandering streams, creeks, canals, and rivers that support fisheries and aquatic habitat.

NSWA believes that the BDCP as currently drafted does not solve the water supply reliability problem, does not further the coequal goals, and has the potential to cause impacts either not identified or not sufficiently addressed in the BDCP and its DEIR/EIS.

II. SUMM ARY OF COMMENTS

Our review indicates that the BDCP documents contain at least three fundamental flaws that must be addressed immediately in order to allow for adequate review of the BDCP and DEIR/EIS. These defects include flawed project operations and modeling, inadequate

provisions for financing, and likely harm to Sacramento Valley salmonids, pelagic fisheries, and waterfowl.

A. The BDCP Operational and Hydrologic Modeling Is Flawed

The modeling that supports the BDCP and its effects analysis is inadequate in several ways. First, the hydrologic model is outdated and has several major flaws in its assumptions and inputs. Only days after the BDCP documentation was released, the Department of Water Resources (DWR) released its State Water Project (SWP) Draft Delivery Reliability Report 2013, which uses the most currently available and corrected hydrologic model in its analysis. The BDCP fails to use this updated model. Second, while the BDCP anticipates changes in hydrologic patterns as a result of climate change, the BDCP modeling assumes there would be *no change* to SWP and Central Valley Project (CVP) operations to respond to those changes. This assumption is simply unrealistic. It is contradicted by the recent reaction by the SWP, CVP and regulators to the recent severe drought conditions throughout California, each of whom altered SWP and CVP operations and requirements to accommodate the drought conditions. Last, the BDCP's modeling simulation of the operation of existing south Delta pumps and the proposed north Delta tunnel diversions does not match the BDCP project description. Because the operations model fails to match the described project, the BDCP overestimates Delta outflow and underestimates exports from the Delta by several hundred thousand acre-feet per year, and underestimates the related impacts on North Delta water levels and salinity. In sum, the existing BDCP technical analysis cannot support state and federal agencies' project approvals. The technical analysis needs to be updated and corrected to ensure that the best available, accurate, scientific tools are used to evaluate the BDCP's impacts.

B. The BDCP Will Result in Significant Biological Impacts With No Guaranteed Benefit to Salmonids or Delta Pelagic Fisheries

Problems and uncertainties in the BDCP's project elements and technical analyses concerning salmonids and pelagic fish demonstrate that the BDCP will not meet the biological needs of covered salmonid and pelagic fish species and is more likely to harm those species than contribute to their recovery.

C. The BDCP Lacks an Adequate and Reliable Source of Funding

Under both state and federal law, a habitat conservation plan (HCP) must ensure that there is adequate funding to implement its conservation actions. The BDCP does not meet this standard. It depends not only on funding from the current proposed bond – which is subject to amendment and general election vote, and has already been delayed four years – but also a second, as yet undefined, bond and equally vague federal funding. (BDCP, pp. 8-84 to 8-85, 8-109 to 8-110.) Moreover, the BDCP does not contain adequate assurances that the water agencies that would receive incidental take coverage are the only agencies that would be asked to contribute funding to the project. Many of the funding sources identified in the BDCP are speculative and otherwise insufficient to support the issuance of "take" permits

under Section 10 of the Endangered Species Act (ESA) or the Natural Communities Conservation Planning Act (NCCPA). Indeed, DWR's representatives acknowledged complete funding might not be available and have even discussed the possibility that the BDCP might need to be scaled back in the future in the event anticipated funding is not available.

As summarized above and discussed in more detail below, the BDCP would have significant adverse effects on the North State and its environment. In addition, the information provided to date in the BDCP documents fails to demonstrate that the BDCP would comply with the preceding four policies. As a result, the NSWA cannot and does not support the proposed BDCP.

The key issues – modeling, species impacts, and finance – must be addressed and resolved prior to any party being expected to conduct a detailed review of and comment on draft documents. The BDCP proponents should correct these key deficiencies and then recirculate the BDCP and DEIR/EIS to allow for meaningful public review and participation. Without the assurance of recirculation and even with significant defects on these key issues, however, NSWA has reviewed the BDCP and DEIR/EIS and has developed comments on the BDCP to the extent feasible based on what was provided to the public.

III. COMMENTS ON THE BDCP

Developing comprehensive and detailed comments on the BDCP and the DEIR/EIS is difficult because of the significant and numerous flaws contained in the BDCP documents and analysis underlying the documents. The lack of any well-defined operating plan for the proposed North Delta intakes, errors in hydrologic modeling, modeling used for an effects analysis that violates the very rules contained in the BDCP itself, and an effects analysis based on this flawed modeling leaves the public in the position of trying to correct the significant flaws in the document in order to assess the true impacts of the project. In addition, Conservation Measures 2 through 22 are discussed only at a programmatic level. One might presume that the true purpose of the Plan is simply to build the North Delta diversions and twin tunnels (inaptly named Conservation Measure 1 (CM1)). However, if the intent of the BDCP is to satisfy the requirements of the Delta Reform Act, fulfill the co-equal goals, and fulfill DWR's public message about the Plan, the BDCP should do a better job of articulating the specifics of *all* the conservation measures in the plan – not only the single conservation measure that provides DWR's contractors with their water supply reliability. Indeed, it is entirely unclear whether the approving agencies can provide any regulatory assurances when most conservation measures are discussed only at a programmatic level.

The burden of producing a comprehensible DEIR/EIS, HCP and natural communities conservation plan (NCCP) and supporting analyses should not fall on the public. Instead, a project proponent is required to provide an adequate and comprehensible public draft documents for public comment. Once the significant flaws in the BDCP are addressed and the BDCP is recirculated for public review and comment, the public will be in a better position to understand the true impacts of the BDCP and to provide detailed comments.

A. The BDCP Fails to Satisfy Federal ESA Requirements

The BDCP fails to meet the requirements of Section 10(a)(2)(B) of the federal ESA. In order to issue an incidental take permit (ITP) under Section 10, an HCP must demonstrate that the proposed taking "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." (16 U.S.C. § 1539(a)(2)(B)(iv).) In addition, the HCP must provide assurance that there is adequate funding available to implement its terms and conditions, as well as to address any unforeseen circumstances that may arise. The BDCP does not meet these requirements. The overwhelming evidence demonstrates the BDCP will not adequately protect listed and threatened species and may, in fact, reduce the likelihood of their survival and recovery in the wild. Further, the BDCP's "assurances" that funding is and will be available for its implementation are inadequate. Despite the myriad of financial sources discussed in the BDCP, it is clear that the "adequate funding" required by the ESA and its implementing regulations has yet to be secured.

1. The Plan Fails to Protect Listed Species

Both independent and State agency experts who have reviewed the BDCP have concluded the Plan will not help, and is likely to hurt, protected fish species.

a. The Fisheries Analysis Does Not Demonstrate the BDCP Will Meet the Biological Needs of Pelagic Fish and Does Not Adequately Address Uncertainties About the Plan's Effectiveness

Robert Latour, Ph.D., has reviewed the analysis by which BDCP seeks to demonstrate that it will meet the biological needs of the covered pelagic fish species. (Ex. B. Latour, R., Ph.D., *Technical Review of the Bay-Delta Conservation Plan (BDCP) and Related Environmental Impact Review (EIR)* (July 9, 2014) (Latour Report).) As discussed in more detail in Dr. Latour's technical memorandum, which is included as Exhibit B to these comments, the BDCP's analysis does not adequately demonstrate that its conservation measures will generate sufficient benefits for those species to meet their biological needs. The BDCP therefore cannot support the approval of an HCP under the ESA or an NCCP under the NCCPA.

As Dr. Latour's technical memorandum discusses in detail, the BDCP's analysis for pelagic fish contains the following important flaws:

- Uncertain effects of habitat expansion – The BDCP relies primarily on a habitat suitability analysis that assumes that an increase in habitat units through geographic expansion of habitat would result in increased numbers of those species. As explained by Dr. Latour, however, there is significant uncertainty concerning habitat usage by pelagic fish in the Delta. Thus it is not possible to conclude that the habitat expansion proposed by the BDCP, in fact, will generate higher numbers of the covered fish.

- Failure to use available ecosystem models – The BDCP relies only on qualitative analysis of habitat and food webs for the habitat expansions it proposes. The well-recognized Ecopath ecosystem modeling tool, however, has been used for habitat restoration projects in other areas and could have enabled quantitative analysis of those proposed habitat expansions' effects, but the BDCP did not use that tool.

- Failure to extend qualitative models into quantitative analysis – The BDCP's analysis for pelagic fish relies on a qualitative analysis of important environmental factors for lifestages of the relevant fish species and whether the proposed Plan would benefit those lifestages. However, the BDCP does not include a quantitative analysis of these relationships or the relationships between environmental effects on different lifestages. The BDCP therefore does not demonstrate how its proposed actions would benefit a covered species as a whole. Published quantitative analyses of at least some of the key relationships are available but are not considered in the BDCP.

- Failure to account for uncertainties in analysis and results and possible negative impacts – There are a number of similar habitat restoration projects across the country that could help define the uncertainty that the BDCP may not generate its projected benefits, and the possibility that the Plan might have negative impacts on the covered species. The BDCP, however, does not rely on studies of those other projects to define the uncertainty associated with its proposals. The BDCP therefore does not consider the best available science. Moreover, while fisheries management throughout the United States now incorporates analyses of uncertainty and risk consistent with the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (16 U.S.C. §§ 1801-1884), the BDCP contains no such analysis. Finally, the BDCP does not adequately account for the fact that its multi-stage analyses for pelagic fish rely on many estimates that probably propagate errors and therefore generate uncertain results. Without estimates of precision for those results, it is not possible to determine how likely it is that BDCP would meet the covered species' biological needs or by how far the Plan might miss its biological objectives. The BDCP's analyses for pelagic fish, therefore, do not demonstrate that the Plan is likely to generate the benefits necessary to support the desired regulatory approvals.

- Overly Conceptual Management and Monitoring Program – The BDCP's monitoring and adaptive management program does not adequately define what information it will measure, how it will measure that information, how its program will be integrated with existing monitoring efforts or how it will determine whether progress is being made. The BDCP's monitoring and adaptive management program is at best a plan to have a plan, which is inadequate.

For these reasons and the further reasons provided in Dr. Latour's expert report, the BDCP documents do not support the approval of conservation plans under the ESA and the NCCPA.

b. The BDCP Fails to Protect Sacramento River Basin Anadromous Salmonids

The California Advisory Committee on Salmon and Steelhead (Advisory Committee), an expert advisory committee to the California Department of Fish and Wildlife (DFW), has recommended that the DFW director deny any incidental take permit under State law because the BDCP will contribute to the further decline of two fish species protected under both the state and federal endangered Species Acts: the Sacramento River Winter Run and Spring Run Chinook Salmon. Notably the Advisory Committee found, "Because Sacramento River Winter Run and Spring Run Chinook Salmon are already significantly depleted and BDCP will further reduce smolt survival, DFW cannot make a finding that the BDCP will lead to recovery of the species." (Ex. C, February 26, 2014 letter from Vivian Helliwell, Chairman, to Charlton H. Bonham.)

The Advisory Committee's findings were seconded by expert fisheries biologist Dave Vogel, whose study of the BDCP concludes that the BDCP's potential adverse impacts to anadromous salmonids could be catastrophic. (Ex. D, Vogel, D., *Comments on the Public Draft Bay-Delta Conservation Plan (BDCP) and Draft BDCP Environmental Impact Report/Environmental Impact Statement* (June 6, 2014) (Vogel Report).) Mr. Vogel's detailed review of the BDCP documents indicates that they contain a deeply flawed analysis of the potential effects and impacts of the BDCP on anadromous fisheries including, but not limited to, the following key deficiencies:

1) Oversimplification of salmonid behavior and BDCP impacts on salmonids.
2) Extensive unresolved uncertainties concerning impacts on salmonids associated with the BDCP and its various elements.
3) Conclusive statements strongly suggesting positive effects for salmonids that have no legitimate foundation.
4) Consistent pattern of overstatement of potential benefits and understatement of potential adverse impacts to salmonids.
5) Frequent erroneous or invalid assumptions in the analyses of effects on salmonids.
6) Propagation of errors in BDCP fish models resulting from faulty BDCP CalSim II water supply and water operations modeling (BDCP Model).
7) Lack of essential details on key BDCP elements (e.g., design features of the north Delta intakes, Fremont Weir fish passage, and in-Delta habitat alterations).
8) Improper reliance on "adaptive management" without describing how future problems may be resolved through such management.
9) Misuse or lack of use of the best available science.

In particular, the BDCP used a variety of models to evaluate the project's potential effects on salmon. As described in detail in Mr. Vogel's report, those models used for the BDCP were particularly constrained because of a lack of empirical data, incorrect data, and

very low reliability and confidence in the models' outputs. Some of the fish models related to salmon survival and behavior are based on faulty data, which render model run outputs invalid and incapable of comparing BDCP alternatives. In many instances, inputs to the models were based on inflated and biased fish survival estimates that would not provide valid comparisons of the BDCP scenarios. Although the BDCP claims "[t]he methods used reflect the best available tools and data regarding fish abundance, movement, and behavior" (BDCP, p. 5.B-i), Mr. Vogel's report demonstrates why that assertion is not correct.

As also noted by Mr. Vogel, when the models suggested unfavorable results (i.e., adverse impacts on salmonids), they were downplayed or not used. Conversely, when the models suggested favorable results (i.e., beneficial impacts on salmonids), they were overplayed and used. Because there was so much reliance on models for the BDCP analyses and impact determinations, it is critical to understand the very serious limitations of those models. The documentation for various models describes some of the limitations, but those discussions are fragmented and buried in the voluminous appendices, and commonly not carried forward into the main body of the BDCP document.

For these reasons and the further reasons provided in the Advisory Committee's letter and Mr. Vogel's expert report, the BDCP documents do not support the approval of conservation plans under the ESA and the NCCPA. They are also insufficient for purposes of compliance with CEQA and NEPA. The information provided is not accurate, and leads to mischaracterization of impacts to the environment.

2. The BDCP Lacks an Adequate and Reliable Source of Funding

Section 10 of the ESA requires the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) find that the applicant for an incidental take permit (ITP) will ensure that sufficient funding be available to implement an HCP. (*Southwest Center for Biological Diversity v. Bartel* (S.D. Cal. 2006) 457 F.Supp.2d 1070, 1105.) While there is no requirement that an applicant have cash or a fully funded trust account available to implement an HCP, an applicant must demonstrate that there is adequate funding for the HCP and that funds are not speculative or dependent on the future actions of others. Indeed, an HCP cannot be approved without identification of secured funding sources for activities contemplated by the HCP. In particular, an HCP must ensure that there is adequate funding and specify the sources of funding available to implement the HCP's steps to minimize and mitigate impacts to its covered species. (16 U.S.C. §§ 1539(a)(2)(A), (B).) Thus, an HCP must detail the funding sources that will be available to implement any proposed mitigation program.

For large-scale HCPs like the BDCP, funding issues present a real concern because of the geographic scope of the area and because the number and scope of the activities contemplated require substantial budgets. Where perpetual funding is required to implement any mitigation measures, the HCP must establish programs or mechanisms to generate those funds. Importantly, an applicant for a permit cannot rely on the speculative future actions of others to fund activities related to an HCP. (*Southwest Center for Biological Diversity v.*

Bartel (S.D. Cal. 2006) 470 F.Supp.2d 1118, 1155, citing *National Wildlife Federation v. Babbitt* (E.D. Cal. 2000) 128 F.Supp.2d 1274, 1294-1295, and *Sierra Club v. Babbitt* (S.D. Ala. 1998) 15 F.Supp. 1274, 1280-1282.)

The lack of adequate funding to ensure implementation of mitigation and other conditions of an HCP can be a fatal flaw. In fact, the lack of adequate funding and appropriate funding assurances has resulted in the invalidation of HCPs. HCPs must include a funding plan that outlines mandatory funding measures and provides for potential future adjustments to account for increased costs. (*Southwest Center for Biological Diversity v. Bartel*, *supra*, 470 F.Supp.2d at p. 1156.)

At least two HCPs in California were invalidated due to the uncertain nature of funding to support the activities contemplated in the HCP. The City of Sacramento's HCP for the Natomas area was invalidated due, in part, to inadequate funding assurances. (*National Wildlife Federation v. Babbitt*, *supra*, 128 F.Supp.2d at p. 1274.) The City of San Diego's HCP also was invalidated for lack of adequate funding. (*Southwest Center for Biological Diversity v. Bartel*, *supra*, 470 F.Supp.2d at p. 1118.) There, the City of San Diego prepared an HCP that needed funding to acquire land for a "preserve" and to administer the plan for the life of the incidental take permit. San Diego's proposed source of funding relied on future actions, consisting of future regional plans with other local jurisdictions, raising the sales tax, or issuing bonds, which would require voter approval. While San Diego promised to use its "best efforts" to implement the financing and land acquisition components of the plan, San Diego's failure to ensure funding for the plan was fatal. The federal court found that the proposed funding source was unreliable and speculative, and that the USFWS could not rationally conclude that the City would "ensure adequate funding" as contemplated by the ESA.

Like the San Diego and Natomas HCPs, the BDCP fails to demonstrate that adequate funding will be available not only to provide funding for land acquisition and administration but also to carry out the conservation measures that are the foundation of the plan. The BDCP does not fulfill even the most basic requirement that there be adequate funding available for any of the conservation measures. Even the introductory paragraphs in the Funding Chapter (Chapter 8) qualify the entire funding discussion as being based on a "programmatic level" estimation of project costs. Identification of needed funding is deferred to an Implementation Office, which will, at some unspecified future time, develop annual capital and operating budgets. (BDCP, p. 8-1.)

The BDCP also is intended to serve as an NCCP under California law. In this regard, the BDCP also fails to meet the funding mandates of the NCCPA. The NCCPA demands an Implementing Agreement detailing, among other things: (1) provisions "specifying the actions [CDFW] shall take . . . if the plan participant fails to provide adequate funding"; and (2) "mechanisms to ensure adequate funding to carry out the conservation actions identified in the plan." (Fish & G. Code, § 2820(b)(3).) The BDCP fails to comply with this mandate.

A fatal defect in BDCP Chapter 8 is the assumption that funding responsibilities can simply be deferred to some future date. (BDCP, p. 8-2.) Without an understanding of who will pay and what funding is needed, there is no way to assess whether adequate funding exists sufficient to provide any regulatory assurances to the project proponents. Indeed, the BDCP itself admits that the BDCP is not intended to establish an allocation of costs or repayment responsibilities; instead, finance plans will be developed separately by "various funding agencies" through future discussions. (BDCP, p. 8-2.)

Moreover, the BDCP attempts to impose costs of certain conservation measures on the general public when those costs should be borne by the water contractors receiving the benefit of the Plan. For example, the BDCP suggests that the contractors should be responsible for 12.6 percent of the costs of CM4. (BDCP, Table 8-41.) The rationale is that a small portion of restoration occurring under CM4 currently is required by the USFWS Biological Opinion for the Long-term Operational and Criteria Plan (OCAP BiOp). However, the BDCP fails to disclose that tidal restoration will also serve to mitigate the adverse impacts of relocating the diversion facilities to the North Delta. In fact, the benefits of tidal restoration are assumed in the modeling of project effects in key areas such as water temperature. Without CM4 (and CM5), the relocation of pumping facilities to the North Delta would increase the frequency and severity of reverse flows in the Sacramento River. Restored tidal areas allow the incoming tide to dissipate and mask the effects of the new North Delta intakes. As such, the cost of CM4 is more appropriately imposed on the contractors because CM4 mitigates the operational impacts of the North Delta intake facilities.

The BDCP relies, in part, on various federal funding sources – sources that require action by Congress to authorize the ongoing expenditure of funds or new authorizations to provide funding for certain BDCP activities. The federal Antideficiency Act (31 U.S.C.A., § 1341 et seq.) prohibits, among other things, the creation of obligations in excess of amounts already appropriated and committing the federal government to pay funds not yet appropriated. To the extent the BDCP relies on any funding sources that exceed current federal authorizations or would require the appropriation of funds, that reliance likely runs afoul of the Antideficiency Act.

In addition to the above, nearly all of the identified funding sources are too speculative to support the issuance of take permits as requested by the project proponents. These funding sources are outlined in Section 8.3 of the BDCP. Below are some examples of speculative and uncertain funding for the BDCP:

- The BDCP contemplates that CVP contractors have "committed to fund construction, operation, and construction-related mitigation costs for implementation of CM1 . . . ." (BDCP, p. 8-73.) However, according to the BDCP, the United States Bureau of Reclamation (USBR) is not a permittee and there is no commitment to wheel federal water through the new facilities – and therefore no basis for assuming federal contractors will pay for facilities that will only wheel SWP water.

- To fund CM1, the BDCP indicates that the state and federal contractors "could issue either general obligation or revenue bonds." (BDCP, p. 8-78.) However, and as recognized by the BDCP, general obligation bonds require voter approval and are therefore speculative.

- For State funding sources, the BDCP relies upon a significant contribution from a "water bond" currently scheduled for the 2014 ballot. (BDCP, p. 8-84.) BDCP attempts to analyze prior bonds, concluding that passage of the current bond is likely and others likely would be passed during the Plan's implementation period. (BDCP, p. 8-85.) Yet bond passage is not assured and any funding relied upon from yet-to-be-passed bond measures is purely speculative, as the voters could reject the bonds. Indeed, and as the BDCP recognizes, the current bond proposal already has been delayed multiple years because the economic climate was not favorable for passage. In fact, the reality is that the bond may not have been passed by the voters. Given the history of *this* bond and the speculative nature generally of voter-approved financing, it is unreasonable for the BDCP to rely on this funding source.

- The BDCP then looks to existing bond source availability in California. (BDCP, § 8.3.5.2.) While not articulated, it appears that the BDCP anticipates that it will "corner the market" in existing bond funds – using all available bond funding for the BDCP. (BDCP, pp. 8-86 to 8-91.) If this is the intent, the BDCP needs to discuss (both in the BDCP and DEIR/EIS) the other projects throughout the State that will not be able to receive funding from these bond sources. Generally, it is speculative to conclude that *all* of the remaining bond funds under the cited programs will be made available *only* to the BDCP.

- The BDCP assumes continued funding for programs and studies under the Interagency Ecological Program (IEP). (BDCP p. 8-91.) The BDCP assumes an "overlap", without any factual support, of IEP work and the BDCP. Without any substantiation, the BDCP assumes that IEP funding will account for $55 million over the permit term. (BDCP, p. 8-91.) There is, of course, no requirement or guarantee that the State Legislature will continue to fund IEP efforts and those funds can therefore not be relied upon to provide stable and secure funding over the life of the permit term.

- The BDCP assumes that nearly $2 million per year will be available from the Delta Stewardship Council (DSC) to support the Plan. DSC funding is not certain because it is subject to the State's budget process. The DSC cannot provide assurances that any funding will be available to support BDCP and certainly cannot assure $2 million per year for the life of the permit term. This funding source is speculative and uncertain.

- The BDCP assumes a roughly $2 million annual financial contribution from the Delta Bay Enhanced Enforcement Program (DBEEP) program. (BDCP, p. 8-93.) The BDCP indicates that, through the DBEEP program, DWR funds roughly $2 million annually for DFW's enforcement efforts to reduce illegal take of fish species. (BDCP,

p. 8-93.) While it is not clear from the text, this is part of the SWP budget – and will be a funding requirement imposed on the SWP contractors. The document must discuss the underlying sources of this funding to provide an appropriate assurance that the funding will be available through the permit term. As revealed in the BDCP, the current agreement for the DBEEP is only three years. This funding is not certain for the 50-year term of the permit. Moreover, this funding is directed to existing efforts; if it is redirected to the BDCP, this money will not provide a net benefit over current conditions.

- The BDCP relies on funding provided through the 2010 Fish Restoration Program Agreement. (BDCP, p. 8-94.) The document, however, recognizes that subsequent agreements would need to be executed and that funding would need to be included. (BDCP, p. 8-94.) Funding is therefore not guaranteed from this program.

- The BDCP also relies on existing state grants for *possible* funding sources. (See BDCP, pp. 8-94 to 8-99 [Wildlife Conservation Board grants for work "relevant" to the Plan; Ecosystem Restoration Program funding "applicable" to the BDCP; Environmental Enhancement Fund availability is "intermittent" and "not guaranteed"; Fisheries Restoration Grant Program has funding "uncertainties"].) While certain of these programs may provide a possible source of funds, none provides the financial certainty sufficient to issue the requested permits.

- One federal funding source relied upon by the BDCP is the Central Valley Project Improvement Act (CVPIA) Restoration Fund. (BDCP, p. 8-99.) The CVPIA Restoration Fund is necessarily connected to the CVP – and 75 percent of funds paid into the Fund are either reimbursed as a feature of the CVP or are a non-reimbursable expenditure. The BDCP describes itself as a project that is State (SWP/DWR) owned and is not part of the CVP. USBR is not a project proponent nor is it a party to the draft IA. It is therefore not appropriate to assume CVPIA funding to support DWR's project. Moreover, reliance on the continuous appropriation of these funds likely violates the Antideficiency Act.

- The BDCP also relies on speculative California Bay-Delta appropriations to fund portions of the BDCP. (BDCP, p. 8-103.) There are a host of problems associated with reliance on these funds, the foremost of which is the assumption that *any* federal appropriation of funds will be made through the expected term of the permit. Additional problems include, as recognized by the BDCP, that funding and programs at best, are "relevant" to the BDCP. Many of the funds are directed to federal agencies that are not parties to the BDCP and are not parties to the IA. There is no basis to rely on this funding for the term of the permit, and it cannot provide assurances sufficient to authorize take of listed species. Moreover, reliance on the continuous appropriation of these funds likely violates the Antideficiency Act.

- The BDCP relies on Regional Ecosystem Conservation through the NMFS. (BDCP, p. 8-108.) However, and as the BDCP expressly admits, there are no current estimates for funding that might be available to NMFS for projects in the San Francisco Bay area. (BDCP, p. 8-109.) There is no basis for relying on any funding from this source in support of the BDCP. Reliance on the continuous appropriation of these funds likely violates the Antideficiency Act.

- The BDCP's reliance on existing federal grants is speculative. (BDCP, pp. 8-110 to 8-118.) While certain grant programs might provide the BDCP with opportunities to compete for available grant funding, there is no guarantee that the BDCP will be awarded any grants under any of the programs identified in the document.

- The BDCP's reliance on possible future federal authorizations is too speculative to rely upon, as the permittees "intent to collaborate and seek federal authorizations" provides no certainty in funding. (BDCP, p. 8-109.) Reliance on the appropriation of these funds likely violates the Antideficiency Act.

The speculative nature of the funding sources identified in the BDCP is fatal to the Plan, as take authorization cannot be issued without greater certainty in funding. Not surprisingly, testimony of a DWR representative after release of the draft Plan confirmed the speculative nature of the BDCP funding. At the February 12, 2014, California Assembly Committee on Accountability and Administrative Review oversight hearing on the BDCP, DWR's representative, Laura King Moon, testified about the nature and certainty of funding to support the BDCP. She testified that in the event funding is not available, the potential regulated entities will revisit the Plan, renegotiate ESA take permit scope of coverage and possibly scale back the project. (Laura King Moon Testimony, California Assembly Committee on Accountability and Administrative Review BDCP Oversight Hearing (Feb. 12, 2014) (Moon Feb. 2014 Testimony), time stamp 00:19:00-00:19:40.) Testimony at this hearing revealed that funding is uncertain and relies upon the assumption that funding will be provided because, generally, state and federal governments have funded other significant restoration projects. (*Id.*, 00:18:23-00:18:30.)

In addition to the speculative funding sources, at least certain categories of expenses grossly underestimate the funds needed to complete the conservation measures. Land cost is one example. The BDCP makes assumptions about land acquisition that will occur over the life of the project. Inherent in these assumptions (not only in costs, but also in the implementation schedule referred to in Chapter 8 (BDCP, p. 8-5)) is that there will be continued funding available for all conservation measures through the life of the permit. However, as DWR's representative testified to the California Legislature, funding might not be available for the entire project, which will necessitate scaling back the BDCP. (Moon Feb. 2014 Testimony, 00:19:00-00:19:40.) This creates the risk that the only element of the Plan to be implemented would be the diversion and twin tunnels, with insufficient funds to implement the conservation and mitigation measures required to mitigate their impacts.

Another major flaw in this section is the cost assumption associated with land acquisition. Cost estimates are based upon California Chapter of the American Society of Farm Managers and Rural Appraisers (CSFMRA) published in 2009. Data published by CSFMRA in 2009 indicated that land values were increasing through 2009 and the trend was for further increases. The BDCP ignores this fact. Moreover, land values assume simple real estate market values for various types of cropland. This assumes a stable real estate market with normal demand and willing sellers of the property sought to be acquired. Those assumptions are unreasonable for a number of reasons. First, to the extent the BDCP creates a demand for 153,114 acres of property needed for various conservation measures and mitigation in the project area, prices will likely increase substantially. Second, and more importantly, the assumptions fail to take into account the very real likelihood that the project proponents will need to acquire the vast majority of needed property through condemnation. Once that process is initiated, prices will not be based on current use of the property – but instead on highest and best use. Thus, real property values and funding needed to purchase land are grossly underestimated.

Even after land is purchased, the BDCP is unclear about long-term funding for lands purchased for the BDCP. For example, when discussing the long-term protection of Reserve lands, BDCP provides that this protection will be accomplished "using techniques identified in CM11, *Natural Communities Enhancement and Management*, commensurate with funding limitations." (BDCP, p. 6-10.) It is unclear what type of funding limitations could exist (this could be tied to the uncertainties of funding, discussed above) and what impact the lack of adequate funding would have on the Reserve lands. The BDCP's failure to clearly articulate how financing and long-term protection will be accomplished in a way that is accessible to the public is a significant flaw in the BDCP.

The discussion of Changed Circumstances, in Chapter 6, also reveals deficiencies in funding considerations. For example, when discussing Levee Failures as a changed circumstance under the BDCP, the Plan assumes that the costs associated with the failure of a "non-BDCP" levee will fall on "the appropriate responsible entity." (BDCP, p. 6-35.) What the BDCP fails to reveal, however, is that it is DWR (or some combination of permittees) that will likely be the "appropriate responsible entity." Local levees are maintained by local reclamation districts, which themselves are comprised of local landowners who are protected by those levees. With DWR becoming a significant Delta landowner under the BDCP, DWR, as a result of its land ownership, will be responsible like any other local landowner for the operation and maintenance – even of these "non-BDCP" levees. The BDCP's obfuscation of this issue misleads the public by suggesting the costs of remediation of a non-BDCP levee will not be part of the costs of the Plan. Moreover, while the BDCP suggests that local reclamation districts will be financially responsible for reconstructing restored areas in the event of levee failure, DWR failed to analyze whether any of these local reclamation districts have the resources or financial capacity to reconstruct restoration areas. The BDCP should include such an analysis if the BDCP is going to rely on these local agencies to act as a backdrop in the event of levee failure. Otherwise the BDPC permittees cannot assure adequate funding for the Plan.

In addition, the BDCP anticipates that in the event of a levee failure, one possible corrective action would be to purchase and restore *additional lands* as a "replacement" project. Neither the BDCP nor the DEIR/EIS discusses the additional costs of purchasing replacement lands, or discusses the additional impacts of taking *more* productive agricultural land out of production in the Delta in the event restored lands are lost to a levee failure. BDCP's failure to discuss these circumstances is quite troubling, particularly when DWR has been trumpeting the very likelihood of catastrophic Delta levee failure as creating the need for the proposed alternate conveyance. If catastrophic Delta levee failure is so likely, surely DWR needs to have a financial plan in place, as a local landowner, to fund local Delta levees and prepare for the likelihood of having to replace large restoration areas.

While the ESA and NCCPA demand that adequate funding be identified and available to implement the projects outlined in an HCP and NCCP, the BDCP fails to satisfy any funding requirement. Even the BDCP's reliance on funding from federal contractors based upon the delivery of federal CVP water is flawed, as USBR will not be a permittee and is not a party to the IA. The remaining sources of funding identified in the BDCP are too speculative to support the issuance of an ITP.

3. The BDCP Improperly Relies on Actions by Parties Not Subject to Its Permits or IA

The BDCP process involves issuance of permits to specific permittees, and the permittees therefore cannot rely on any third parties (non-permittees) to undertake measures to accomplish the Plan's goals. This is true even in the context of "adaptive management." If the BDCP relies on the actions of anyone not subject to the regulatory authority of the permittees or not a signatory to the IA, a legally flawed HCP and a flawed CEQA/NEPA document result. Indeed, the obligations of overseeing implementation of the BDCP fall on the permittees, which is precisely why federal agencies require that the permittees be capable of overseeing HCP implementation and have the authority to regulate the activities covered by the permit, including implementation of all restoration and mitigation measures. Here, none of the permittees has the authority to regulate many of the activities contemplated by the various conservation measures that make up the BDCP. Any reliance on voluntary efforts by third parties, or statements in the BDCP that required elements of the plan will simply happen in the future are insufficient to demonstrate that the various activities are reasonably certain to occur. HCPs have been invalidated for this precise reason. (*National Wildlife Federation v. National Marine Fisheries Service* (D. Or. 2003) 254 F.Supp.2d 1196, 1205.)

There are no binding commitments from state and local agencies either to fund or to implement the responsibilities delegated to them by DWR. Without those binding commitments, NMFS cannot make a finding that any of those actions are "reasonably certain to occur" – a finding necessary to make a no-jeopardy determination. For example, CM1 involves the construction and operation of conveyance facilities that will divert water from the Sacramento River and convey it through tunnels to the South Delta. (BDCP, pp. 3.4-12 to 3.4-13.) It is questionable whether the massive new diversion facilities are a true

"conservation" measure. It is also clear that USBR must commit to utilize those new facilities in order for CM1 to be "effective" and for it to be financially viable. (BDCP, § 3.4.1.4)

The modeling undertaken as part of the BDCP includes changes in operation of federal CVP facilities, including Shasta and Folsom reservoirs, and Jones pumping plant in the South Delta. It is quite clear that, in order for CM1 to be both financially and operationally viable, USBR must wheel CVP water through the new facilities. Moreover, the funding chapter, Chapter 8, discusses the funding contribution from CVP contractors and how other "jointly developed facilities" are to be funded by both state and federal water contractors. (BDCP, p. 8-70.) Indeed, Chapter 8 assumes federal water supplies will be moved through the new conveyance facilities – and clearly states that "[t]he financial support of the state and federal contractors is *essential in order to implement the plan*." (BDCP, p. 8-82, emphasis added.) However, USBR is not a permittee nor is it a party to the draft IA. USBR will therefore not be bound under the ESA to undertake any actions to implement CM1. The BDCP and DEIR/EIS make an unwarranted assumption in this respect. The BDCP documents' lack of clarity on the role and commitment of the federal government and federal water contractors confuses the public about the real nature of the BDCP.

Similarly, CM17, *Illegal Harvest Reduction*, anticipates funding to support more game wardens to enforce fish and game regulations in the Delta to reduce illegal harvest of species. The BDCP, however, does not appear to guarantee that DFW will implement CM17 as envisioned by the BDCP. Likewise, implementation of CM21, *Nonproject Diversions,* requires the execution of interagency agreements. (BDCP, p. 6-4.) With lack of commitments and the inability of the permittees to regulate the conduct of these third parties, it is not clear that these conservation measures will be implemented at all. Without those assurances, incidental take permits cannot issue.

4. The BDCP Fails to Adequately Define the Role of the USBR and the Relationship to the ESA Section 7 Process

The BDCP describes itself as a project proposed by the State, through DWR, to be owned and operated by the State. Reading the Plan it is easy to get the impression that the only difference between existing conditions and the operation of CM1, once constructed, is a different location for diverting SWP water. This, perhaps, is one of the most misleading aspects of the BDCP. The purported benefits of CM1 include the reduction in entrainment of fish in the South Delta that currently result from pumping operations in the South Delta, along with certain reverse flow conditions that occasionally result from South Delta pumping operations. To reduce or eliminate those conditions, USBR must move CVP water through the new North Delta facilities. That is not the only change that will result. The BDCP modeling reveals that there will be significant operational changes at upstream reservoirs, including in CVP owned and operated reservoirs. The BDCP fails to adequately discuss the nature and purpose of those changes and fails to discuss the impacts associated with those changes.

The BDCP also fails to adequately describe how the ESA Section 7 process could impact the BDCP and the water supply expectations that form the water supply side of the BDCP. For example, the BDCP fails to adequately discuss the current Coordinated Operations Agreement (COA) between the state and federal government and what changes will be necessitated by the BDCP. For example, the COA allocates responsibility for Delta outflows between those agencies and their respective projects. That responsibility will inevitably be altered by the BDCP. How those responsibilities are allocated impacts operations of upstream reservoirs and those who receive water from them, including project water service contractors, settlement contractors, wildlife refuges, and fisheries.

The BDCP limits its geographic extent and analysis of impacts to the Delta region. Its failure to reveal changes in upstream CVP and SWP operations also prevents adequate consideration of environmental impacts in the DEIR/EIS, a fatal flaw in those documents as well. Delta operations cannot be segregated from upstream operations; the two are interrelated and interdependent.

The BDCP must be revised to discuss the nature of the relationship between the BDCP and the operation of various CVP facilities, including upstream reservoirs, federal pumping facilities, to provide an understanding of likely changes needed to the COA, and to discuss how future ESA Section 7 consultations could impact the underlying assumptions in the BDCP. A thorough discussion of these issues is necessary so the public can understand how the impacts might differ between the SWP and CVP and whether there will be any certainty in the operations of the CVP.

5. The BDCP Fails to Consider Future Water Supply Demands in Northern California

Generally, there are two types of circumstances relevant to the ESA's "No Surprises" rule: unforeseen circumstances and changed circumstances. Unforeseen circumstances, also called "extraordinary circumstances," are changes over the life of an HCP that were not or could not be anticipated by the applicants, USFWS or NMFS. Changed circumstances, on the other hand, are not uncommon and can reasonably be anticipated and planned for. (50 C.F.R. § 17.32 (b)(5).)

One such changed circumstance, as it relates to the BDCP, is that some of the water supplies currently being exported by the CVP and SWP will be needed in the counties or areas wherein the water currently being exported originates. California law expressly recognizes the prior right of communities in those areas to water currently being exported, to the extent that water will be needed to adequately supply the beneficial needs of those areas. (Wat. Code, §§ 10505, 10505.5, 11460, 11463 and 11128; also *id.*, §§ 12200-12220.) The State's own demographic data predicts significant population increase in counties north of the Delta during the proposed term of the BDCP, with counties such as Sacramento, San Joaquin, Nevada, Placer, Yolo and Yuba projected to grow by 50 percent or more. (See California Department of Finance, Demographic Research Unit, Report P-1 (County): State and County Population Projections, July 1, 2010-2060, available at

http://www.dof.ca.gov/research/demographic/reports/projections/P-1/.) That demand for water will increase in and north of the Delta with this population growth, and thus the likelihood that less water will be available for export uses is reasonably foreseeable. The BDCP must account for this increased demand as a changed circumstance. Increased demands in the areas of origin have either been omitted entirely or are otherwise underestimated in the BDCP modeling. The BDCP must accurately describe future demands in the area of origin and disclose the impacts under the BDCP, of less water being available for BDCP permittees/participants. This is also a deficiency in the BDCP DEIR/EIS, mischaracterizing among other things cumulative impacts and the multiple future scenarios.

B. The BDCP Fails to Comply with NCCPA Requirements

As noted, the BDCP also is intended to serve as an NCCP under California law. The primary objective of an NCCP is to "identify and provide for those measures necessary to conserve and manage natural biological diversity within the plan area while allowing compatible and appropriate economic development, growth, and other human uses." (Fish & G. Code, § 2805(h).) As an NCCP, the BDCP must provide for the protection of habitat, natural communities, and species diversity, as well as contain specific conservation measures that are based on the best available science and that meet the biological needs covered species. Like an HCP, an NCCP must also provide assurances with regard to its implementation and the sources of funding to be used to carry out proposed conservation actions. As discussed above and throughout these comments, the BDCP does not ensure protection of species diversity, is not based on the best available science, and fails to meet the funding assurance requirements of both the ESA and the NCCPA. As such, the BDCP fails to meet the most basic standards to serve as an NCCP and cannot be relied on to support the taking of covered species under the NCCPA.

C. The Assurances Sought by the BDCP Violate California's No Injury Rule and Contravene the Priority of Water Rights

The BDCP describes the "assurances" the permittees will enjoy as a result of its implementation. The BDCP explains that the assurances provide "durability and reliability" to agreements reached with various agencies as part of the Plan's implementation. (BDCP, p. 6-28.) Generally speaking, "assurances" provided to a permittee are *guarantees* of sorts that, if a permittee lives up to its end of the bargain in implementing an HCP, it will not be required to undertake any additional measures for the benefit of the species covered by the HCP.

The BDCP casts these assurances in an interesting way. The BDCP suggests that, if the terms and conditions of the BDCP are being met, the federal government,

> will not require additional conservation or mitigation measures, including land, water (including quantity and timing of delivery), money, or restrictions on the use of those resources. (BDCP, p. 6-28.)

The BDCP recognizes that these "assurances" will not and cannot apply to USBR, so it is only DWR that will receive the assurance that it will not be required to commit any additional property – including land, water, or money – for the benefit of species covered by the BDCP. However, the assurances that the BDCP seeks contravene California water law, violating the "no injury" rule and disregarding the rule of priority of water rights.

As part of the construction of CM1, DWR will need to file with the SWRCB Petitions for Change in Point of Rediversion of water under the SWP water right permits to add the North Delta intakes as an additional point of diversion for SWP water. If the USBR participates in the BDCP, the same will be true for USBR's water right permits for the CVP, as CM1 will not be feasible without including CVP water as part of the operations of CM1. In order to approve the requested changes, the SWRCB will need to find, among other things, that the requested changes "will not injure any other legal user of water." (Wat. Code, § 1701.2.)

As defined in the current draft documents and their proposed assurances for project proponents, however, the BDCP cannot meet the requirements for the SWRCB to approve the necessary Petitions for Change. Water Code section 1702 sets the key requirements for such petitions, to wit:

> Before permission to make such a change is granted the petitioner shall establish, to the satisfaction of the board, and it shall find, that the change will not operate to the injury of any legal user of the water involved.

This requirement protects not only water users who hold their own water rights, but also those receiving water under contract. (*State Water Resources Control Board Cases* (2006) 136 Cal.App.4th 674.)

There are many reasons why the BDCP, as described in the draft documents, cannot satisfy Water Code section 1702's "no injury" requirement. If DWR is correct in the BDCP that constructing CM1 relieves it of any further obligation to forego any storage or diversion of water for species covered by the Plan, then any additional water required would have to be provided by other water right holders. As species may continue to decline in the foreseeable future, granting the water-right changes necessary to implement the BDCP, with the assurances that the Plan contemplates, could injure other legal users of water and could require other water users to forego diversions for the benefit of DWR's and USBR's diversions of water to BDCP proponents. In addition, as discussed elsewhere in these comments, the CVP/SWP operations incorporated in the No Action Alternative, as well as the "proposed project" Alternative 4, would involve drawing at least one upstream reservoir (Folsom Reservoir) down to dead pool in 10 percent of years as well as depleting other upstream reservoirs (e.g., Shasta), creating conditions that would prevent other water users from obtaining supplies to which they are entitled under contract rights and water rights, which supplies are critically needed in upstream communities. These impacts represent very serious injuries.

The BDCP also would fail to meet Water Code section 1702's "no injury" requirement because of its uncertain impacts on the CVP. As discussed elsewhere in these comments, while the BDCP states that releases from Oroville Reservoir would be used to meet Delta outflow requirements associated with Alternative 4, BDCP does not even attempt to determine how those Oroville releases would affect CVP operations under the COA. In addition, while the BDCP acknowledges that USBR cannot obtain the same sort of long-term ESA coverage as DWR, the BDCP does not attempt to determine how this disparate treatment would affect CVP operations. These omissions mean that it would not be possible for the BDCP to demonstrate how CVP/SWP operations under the Plan would affect the water supplies of CVP water service contractors who are not BDCP proponents.

The proposal that senior water right holders will be required to forego water diversions to make the BDCP a success is inconsistent with California law. The SWRCB recently attempted to impose a condition on senior water rights held by the El Dorado Irrigation District (EID) and the El Dorado County Water Agency (EDCWA) that would have required EID and EDCWA to forego diversions for the benefit of junior users. EID and EDCWA challenged the SWRCB's action, arguing that the imposition of the condition (which effectively required senior water right holders EID and EDCWA to forego diversions to help meet Delta water quality standards that the CVP and SWP were responsible for meeting, while allowing junior users to continue to divert water), violated the long-standing principle of water right priorities. Both the lower and appellate courts sided with EID and EDCWA. (*El Dorado Irrigation District v. State Water Resources Control Bd.* (2006) 142 Cal.App.4th 937 (*EID v. SWRCB*).)

Importantly, the Court of Appeal held that the SWRCB's attempt to impose this condition "contravened the rule of priority, which is one of the fundamental principles of California water law." (*EID v. SWRCB, supra,* 142 Cal.App.4th at p. 943.) Indeed, the court recognized prior pronouncements of the California Supreme Court explaining that a court's first concern when addressing water right controversies is to "recognize and protect the interests of those who have prior and paramount rights to the use of waters." (*EID v. SWRCB*, citing *Meridian, Ltd. v. San Francisco* (1939) 13 Cal.2d 424, 450.) While the Court recognized that the rule of priority is "not absolute," the Court was very clear in holding that the SWRCB is obligated to protect water right priorities unless doing so would result in the unreasonable use of water, violations of the public trust doctrine, or "other important principles" of California water law. (*EID v. SWRCB* at pp. 966-967.) When these circumstances present themselves, "every effort must be made to preserve water right priorities." (*Id.* at p. 966.) Thus, any attempt, through the BDCP, to undermine water right priorities, or to attempt to require upstream senior diverters to forego diversions to meet BDCP goals and objectives, thereby allowing the continued export of water by junior appropriators, will violate long-standing principles of California water law.

The California Supreme Court reached a similar conclusion in *City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224 (*Barstow*). There, the Court rejected a "physical solution" as a method of settling a water right dispute where the physical solution

relied on an "equitable apportionment" and did not consider prior rights. Importantly, the *Barstow* Court noted the need to protect and recognize prior rights when it opined: "In ordering a physical solution, therefore, a court may neither change priorities among the water rights holders nor eliminate vested rights in applying the solution without first considering them in relation to the reasonable use doctrine." (*Barstow* at p. 1250.) *Barstow* and *EID v. SWRCB* make clear that any suggestion that entities not parties to the BDCP must forego diversions to make BDCP a success violates California law.

In addition to the foregoing, as discussed above, area-of-origin statutes[1] mandate that water use within the area of origin – in this case Northern California – not be reduced due to the export of water for use outside the area of origin. In fact, the water rights granted by the State for the operation of the SWP and CVP are conditioned upon compliance with area-of-origin laws. Any attempt to subvert the area-of-origin statutes, whether through a private HCP process (via regulatory assurances) or through the CEQA/NEPA process, will result in clear violations of those statutes intended to protect areas of origin, including the protection of Northern California water supplies from injury by export projects.

D. The Governance Structure Is Overly Complicated and Uncertain

The BDCP proposes a complicated governance structure that (1) may subject other water users to the Plan's requirements and risks; (2) depends on undefined participation by USBR; and (3) leaves CVP contractors other than BDCP proponents open to undefined risks. This structure is inadequate to support approval under the NCCPA and the ESA. For the BDCP to be considered for approval under the NCCPA and the ESA, these problems must be corrected and all draft BDCP documents must be recirculated for public review and comment.

BDCP Chapter 7 describes the proposed implementation structure as involving the following, among other elements:

- USBR is one of the entities that will have "ultimate responsibility for compliance with the provisions of the BDCP and the associated regulatory authorizations" (BDCP, p. 7-1);

- The BDCP sets "out the parameters within which DWR and USBR will conduct SWP and CVP operations and infrastructure development" (BDCP, p. 7-7);

- Federal agencies, presumably including USBR, would continue to "seek regulatory coverage under ESA Section 7(a)(2) for federally listed species" (BDCP, p. 7-9);

- "For Delta operations, the BDCP will provide the basis for ESA Section 7 consultation on the coordinated long-term operation of the CVP" (BDCP, p. 7-10);

[1] The area-of-origin statutes include Water Code sections 10500 et seq. and 11460 et seq.

- USBR and DWR will prepare an "Annual Delta Water Operations Plan," which will be part of "coordinated operation plans for the federal and state projects" (BDCP, pp. 7-4, 7-12);

- An Implementation Office and Program Manager would be: (1) governed by an Authorized Entity Group (AEG) that includes only representatives of USBR, DWR, and the state and federal contractors who are BDCP proponents; (2) assigned "certain responsibilities concerning the implementation of the BDCP" and would be required to be "responsive" to the AEG (BDCP, pp. 7-1 to 7-2, 7-8, 7-10 to 7-11); and

- A Stakeholder Group of approximately 38 members, only one of which would be required to represent Sacramento Valley water agencies – which would be two fewer than the number of required representatives from "conservation groups with fish and wildlife management," equal to the number of representatives from "fishing organizations" and equal to the number of representatives from "hunting organizations." (BDCP, pp. 7-19 to 7-20.)

This implementation structure is inadequate under the NCCPA, the ESA, NEPA and CEQA because it fails to clearly define how USBR – and by extension, USBR's non-BDCP CVP contractors[2] – would be affected by the decisions made within the BDCP. USBR generally operates the CVP as an integrated system. In some places, the BDCP suggests that decisions made within the BDCP primarily by the AEG – whose only water-user representatives would be BDCP proponents – would control or at least substantially affect decisions that would affect non-BDCP CVP water service contractors. For example, as noted above, the BDCP indicates that the Plan could "set parameters" for CVP operations and control USBR's ESA consultations concerning the "coordinated long-term operation of the CVP." In other places, the BDCP acknowledges the legal reality that the CVP cannot be granted the same long-term ESA coverage as the SWP can be granted under the ESA's Section 10.

It is unclear how the proposed implementation structure would reconcile these incongruities. For example, the BDCP states that USBR and DWR will prepare an "Annual Delta Water Operations Plan," which will be part of "coordinated operation plans for the federal and state projects." These "coordinated" operations would include USBR's and DWR's operation of the proposed Delta tunnels (CM1) and the "water operations aspects" of the Yolo Bypass Fisheries Enhancement measures (CM2). Nowhere, however, does the BDCP explain how these project-specific actions could be disentangled from CVP and SWP operations that serve water users who are not BDCP proponents. USBR's and DWR's water rights and contracts with non-BDCP water users do not authorize them to adversely impact those water users by complying with BDCP's terms. Moreover, nowhere does the Plan

[2] These are the many CVP contractors who are not BDCP proponents and permittees, including many of the parties submitting this comment letter.

explain how USBR will be able to make the commitments required when its operations will continue to be subject to consultation and re-consultation under ESA Section 7.

Chapter 6, Plan Implementation, describes the timeline within which the various conservation measures will occur. Recognizing that certain public funds are not guaranteed, the BDCP recognizes that "the timing of funding available from public sources for actions that conserve species in the Plan Area [], may dictate the timing of some implementation actions." (BDCP, p. 6-2.) While the BDCP argues that the timing of implementation actions will nonetheless meet the "rough proportionality" requirement, there certainly is no assurance that this will be the case. The BDCP fails for this additional reason.

Moreover, key elements of the Plan will not even be developed until many years after the Plan has taken effect. For example, the first "version" of the Annual Water Operations Plan – which will contain information essential to the public's understanding of the Plan – will not be developed for nearly a decade after the BDCP is approved. (BDCP, p. 6-23.) According to the BDCP, DWR and USBR (non-permittee and non-signatory to the IA) retain final approval authority over the Annual Water Operations Plan. (*Ibid.*). Without an appropriate operations plan proposed as part of the BDCP itself, the public is deprived of understanding the actual and potential impacts associated with CM1. Moreover, it is not clear that the federal agencies can issue take authorization for a project when no one – not even the project proponents – knows how it will be operated.

These uncertainties, and the overall vagueness of the proposed implementation structure, prevent the BDCP from being adequate to support an NCCP under the NCCPA, an HCP under the ESA and a valid EIR/EIS under NEPA and CEQA. The NCCPA requires that, for DFW to approve a NCCP, DFW must be able to find that the "plan includes the estimated . . . process by which . . . conservation measures are to be implemented . . . ." (Fish & G. Code, § 2820(a)(10).) Similarly, for NMFS and USFWS to approve an HCP, the ESA requires the applicant to submit an HCP that specifies what steps the applicant will take to minimize and mitigate the impact of all takings. (16 U.S.C. § 1539(a)(2)(A)(ii).) The BDCP cannot meet these requirements because its implementation structure, and particularly USBR's role in it, is so uncertain. These uncertainties also prevent the BDCP from supporting a sufficiently stable project description to produce a valid EIR under CEQA or a valid EIS under NEPA. (See 40 C.F.R. § 1501.2(b); *Sierra Club v. Babbitt* (E.D. Cal. 1999) 69 F.Supp.2d 1202, 1217-1218 [project description with insufficient detail does not permit sufficient public comment and violates NEPA]; *Concerned Citizens of Costa Mesa v. 32nd District Agricultural Assn.* (1986) 42 Cal.3d 929, 938 (*Concerned Citizens of Costa Mesa*).)

E. BDCP Modeling Is Inadequate Because It Is Inconsistent With American River Settlement Contracts, the Terms of Folsom Reservoir's Water Right Permits, and Practical Experience in This Drought Year

As set forth in detail in the comments of the American River Water Agencies on the BDCP and BDCP DEIR/EIS,[3] the BDCP hydrologic modeling, and therefore much of its environmental analysis, is flawed because it assumes that Folsom Reservoir could be operated in a manner that would violate several settlement contracts, as well as water right permit terms, that apply to the reservoir. Specifically, the modeling assumes that it would be legally possible for USBR to allow Folsom Reservoir to be drained below its municipal and industrial water-supply intake to its dead pool and therefore to levels that would make it impossible to satisfy the settlement contracts and water right permit terms that protect local communities'[4] water supplies from the reservoir. It also improperly assumes that USBR would not comply with the City of Sacramento's settlement contract. The modeling probably underestimates the risks to water supplies from Folsom Reservoir that would occur with the BDCP's implementation because it apparently does not account for probable adjustments to CVP operations under the COA. Finally, contrary to experience in this severely dry year, that modeling assumes that USBR, the SWRCB, and other agencies would not adjust operations to protect water supplies for municipal purposes. Because those assumptions are incorrect, the BDCP modeling, and the DEIR/EIS's environmental analysis that relies on the modeling, are not supported by substantial evidence, and any impact analyses that rely on the modeling do not comply with CEQA and NEPA.

F. The BDCP Does Not Comply With Delta Reform Act Requirements

The Delta Reform Act contains a specific mandate for the BDCP. (Wat. Code, § 85320.) Unless the BDCP meets specified criteria, the BDCP will not be eligible for state funding. (*Id.*, § 85320(b).) Among those criteria are the requirements that the BDCP include a comprehensive review and analysis of all of the following:

- A reasonable range of flow criteria, rates of diversion, and other operational criteria required to satisfy the criteria for approval of a natural community conservation plan as provided in subdivision (a) of Section 2820 of the Fish and Game Code, and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses.

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[3] Their water rights and contracts, and American River region impacts, are identified in more detail in the American River Water Users' July 2014 Comments on Bay Delta Conservation Plan and Draft EIR/EIS.

[4] This includes without limitation the following water service providers and their retail and wholesale customers: the City of Sacramento, the City of Folsom, San Juan Water District, the City of Roseville, and Placer County Water Agency.

- A reasonable range of Delta conveyance alternatives, including through-Delta, dual conveyance, and isolated conveyance alternatives and including further capacity and design options of a lined canal, an unlined canal, and pipelines.

- The potential effects of climate change, possible sea level rise up to 55 inches, and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the environmental impact report.

- The potential effects on migratory fish and aquatic resources.

- The potential effects on Sacramento River and San Joaquin River flood management.

- The resilience and recovery of Delta conveyance alternatives in the event of catastrophic loss caused by earthquake or flood or other natural disaster.

While the BDCP appears to remain in development, it appears clear it will not include a comprehensive review and analysis of flows necessary for recovering the Delta ecosystem, one of the co-equal goals, and restoring fisheries. While the BDCP does mention alternatives that DWR considered, the BDCP does not include a comprehensive review and analysis of those alternatives, as required by the Delta Reform Act. The BDCP also fails to include an appropriate analysis of the impacts of climate change on the system. While the BDCP recognizes that climate change will occur, it fails to discuss the likely reaction (operational and regulatory) and fails to adequately discuss and analyze the impacts of climate change on restoration activities in the Delta. Assumptions about the adaptation to climate change instead are buried within the technical model and thus not accessible or apparent to the public or decisionmakers. And while effects on migratory fish and aquatic resources are addressed, they are not addressed adequately, as demonstrated by the comments of the Delta Independent Science Review Panel in its review of the BDCP Effects Analysis. (See Delta Science Program Independent Review Panel Report, BDCP Effects Analysis Review, Phase 3 (Mar. 2014) (Delta Science Program Report), Ex. E; see also Vogel Report, Ex. D; Latour Report, Ex. B.)

G. The BDCP Fails to Account for a nd Describe Impacts of Integrating the BDCP Into the DSC's Delta Plan

Water Code section 85320 provides that if DFW:

> . . . approves the BDCP as a natural community conservation plan pursuant to Chapter 10 (commencing with Section 2800) of Division 3 of the Fish and Game Code and determines that the BDCP meets the requirements of this section, and the BDCP has been approved as a habitat conservation plan pursuant to the federal Endangered Species Act (16 U.S.C. Section 1531 et seq.), the council shall incorporate the BDCP into the Delta Plan.

While the BDCP recognizes it will be incorporated into the Delta Plan if it meets the standards of an NCCP, the BDCP fails to discuss the consequences of that incorporation. (BDCP, pp. 1-27 to 1-28.) Later in the document, however, there is a recognition that the BDCP may stand in the way of future projects. Indeed, the BDCP goes so far as to suggest future regulations might be prohibited if they are inconsistent with the BDCP. (See BDCP, p. 6-46 [future projects and regulations must evaluate effects on BDCP and be evaluated for consistency with the BDCP].) The BDCP suggests it will constrain future USFWS and NMFS consultations as well. (BDCP, p. 6-47.)

To the extent the BDCP will be a future measure of consistency, whether through the Delta Plan or otherwise, the BDCP and its accompanying DEIR/EIS must consider and evaluate the impacts of the BDCP on foreseeable future projects. The BDCP must, for example, analyze whether it will impact existing general plans in the Delta region, whether it will impact future transportation projects, recreational opportunities, and similar projects. Local agencies, like Sacramento County, should have a full understanding of how the BDCP might impact the County and its residents – not just through the construction of physical facilities – but also by any proscriptions on County activities that may follow as the BDCP acts as a prohibition on future activities. The omission of information explaining the consequences of incorporating the BDCP into the Delta Plan has deprived the public of information necessary to understand the project's impacts on local governments.

IV. COMMENTS ON THE IA

The draft IA does not meet the requirements of the ESA and NCCPA. As a preliminary matter, the IA is incomplete and does not provide the public with a sufficiently complete picture of the obligations and assurances that will ultimately be included in a final implementing agreement. None of the exhibits to the IA were made available with the document on the BDCP website or elsewhere, to the NSWA's knowledge.

An implementing agreement provides the permitting agencies with the requisite assurances that the project for which incidental take coverage is proposed has adequate funding, and that all appropriate mitigation and conservation measures will be implemented. The current IA fails to provide those assurances and is otherwise inappropriate.

A. Lack of Participation by USBR

As explained in more detail above in comments on the BDCP, it does not appear that USFWS, NMFS, or DFW can make all of the required findings to approve the BDCP, particularly because there are no assurances that USBR will commit to any actions or provide any funding to support the BDCP. USBR is identified as an Authorized Entity in the IA, yet the IA specifically provides that the IA establishes no obligations on behalf of USBR. Given the integral nature of USBR's participation in the BDCP, and the absolute necessity of USBR's commitment to wheel water through the proposed facilities and to provide funding for the BDCP, the IA must describe the assurances that USBR will do its part under the BDCP.

Moreover, it is unclear how the IA can provide adequate funding assurances without commitments from USBR. For example, IA Section 13.1.1 obligates the Authorized Entities, which includes USBR, to provide funding to implement the BDCP. Yet, and as explained above, the IA specifically provides that (1) the IA creates no obligations for USBR, and (2) there is no commitment of federal funds for the BDCP. Except, USBR will not be a signatory to this "contract." If there is insufficient funding because USBR fails to provide its share of implementing costs, who will cover the shortfall? See also Section 13.2, wherein the IA represents that USBR has committed substantial resources to ensure implementation of the BDCP. Without being a party to the IA, it is unclear how the IA can make this representation as to USBR.

B. Inadequate Funding Assurances

As discussed in more detail, above, Section 10 of the ESA requires the USFWS and NMFS to find that the applicant for an ITP ensure that sufficient funding will be available to implement an HCP. The NCCPA requires the same of an NCCP. Not only does the IA fail to ensure sufficient funding to implement the BDCP, it expressly recognizes the current lack of federal funding commitments and the possibility that insufficient funds will be available to implement the BDCP. Notwithstanding the recognition that there could be a significant funding shortfall, the IA provides that the Authorized Entities will not be required to provide land, water, or monetary resources beyond their existing commitments. The IA lacks any semblance of funding commitments to implement the BDCP.

Moreover, the IA's continued inclusion of USBR as an Authorized Entity in the context of commitments and assurances is improper, as USBR cannot obtain regulatory assurances under Section 10 and, according to the IA, is not committing to the implementation of the BDCP in the means required by the ESA and NCCPA.

C. Improper Restraint on USFWS and NMFS Discretion

The IA repeatedly and improperly attempts to restrain future USFWS and NMFS discretion regarding enforcement of the IA and in future review under NEPA and the ESA. While Section 14.0 purports to recognize the ongoing authority of USFWS and NMFS, other language in the IA contradicts that recognition. For example, Section 13.2 provides that, even if sufficient funds are not available to implement the BDCP, the Authorized Entities will not be required to provide additional land, water, or monetary resources to support covered species. In addition, Section 20.1.9 eviscerates any subsequent NEPA review of Covered Activities by *requiring* USFWS and NMFS to assert that the BDCP conservation measures fully address any impacts to covered species, even if the science (and monitoring) proves to the contrary. This provision is inappropriate because it constrains the NEPA responsible agencies' judgment and discretion and compels a particular finding by them, even if there is substantial evidence to the contrary. This improper restraint on agency expertise and discretion deprives other federal agencies and the public who fund those agencies of the benefit of NMFS and USFWS expertise and guarantees that NEPA review will not be fully objective or lacking in bias. The consequence of this improper restraint on wildlife agency

expertise means other agencies seeking objective input will have to go to outside experts to get an objective review and recommendations.

D. Insufficient Detail Regarding Decision Tree Process

The Delta Stewardship Council's Delta Science Program Scientific Review Panel was highly critical of the Decision Tree process set forth in IA Section 10.2.1. (See Delta Science Program Report, Ex. E.) The draft IA fails to adequately address the concerns raised by the Scientific Review Panel.

E. Improper Exclusion of Compensatory Mitigation Critical Habitat

Section 20.1.6 provides that critical habitat will be excluded from the Plan area only if the BDCP adequately protects such habitat. If critical habitat is included in the plan area, then necessarily the BDCP does not adequately protect the habitat and species that depend on it. Thus, in the event critical habitat *is* included, it is inconsistent with the ESA to say no compensatory mitigation or minimization measures will be required of the permittees. Due to the vast Plan area, this provision would allow the most significant factor affecting the success of listed species – water operations and diversions – to continue to harm them, in direct conflict with the ESA.

V. COMMENTS ON THE DEIR/EIS

A. The Project Description Is Too Vague, and Subject to Too Many Uncertainties, to Permit Meaningful Environmental Review

The BDCP and DEIR/EIS project description do not provide enough information about the project or its operations to permit the public to evaluate effects on the environment. The California Supreme Court has explained that, under CEQA "[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*Concerned Citizens of Costa Mesa*, *supra*, 42 Cal.3d at p. 938.) This same standard applies under NEPA. (See also 40 C.F.R. § 1501.2(b); *Sierra Club v. Babbitt*, *supra*, 69 F.Supp.2d at pp. 1217-1218 [project description with insufficient detail does not permit sufficient public comment and violates NEPA].) The project description in the DEIR/EIS fails to satisfy these requirements because it, as with the BDCP itself, contains a very large number of crucial uncertainties, vague descriptions and analytical gaps.

In order for incidental take coverage to be authorized under the federal ESA, USFWS, NMFS or both must find that a HCP will: (1) "to the maximum extent practicable, minimize and mitigate" the impacts of the taking; and (2) "not appreciably reduce the likelihood of the survival and recovery of the species in the wild." (16 U.S.C. §§ 1539(a)(2)(B)(ii), (a)(2)(B)(iv).) Similarly, for DFW to approve an NCCP, the NCCPA requires, among other things, that:

- "The plan contains specific conservation measures that meet the biological needs of covered species and that are based on the best available scientific information regarding the status of the covered species and the impacts of the permitted activities on those species." (Fish & G. Code, § 2820(a)(6).)

- "The plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent conservation of covered species appropriate for land, aquatic, and marine habitats within the plan area." (Fish & G. Code, § 2820(a)(3).)

- "The development of reserve systems and conservation measures in the plan area provides, as needed for the conservation of species, all of the following: … (B) Establishing one or more reserves or other measures that provide equivalent conservation of covered species within the plan area and linkages between them and adjacent habitat areas outside of the plan area." (Fish & G. Code, § 2820(a)(4).)

- "The plan includes the estimated timeframe and process by which the reserves or other conservation measures are to be implemented, including obligations of landowners and plan signatories and consequences of the failure to acquire lands in a timely manner." (Fish & G. Code, § 2820(a)(9).)

Just as NEPA and CEQA require that the project analyzed in an environmental document be sufficiently well defined to inform the public of what is proposed and of the projected environmental effects of implementing that project, these standards for an HCP and NCCP necessarily require that conservation actions be specific and well defined.

All elements of the BDCP – even the proposed new North Delta diversion and tunnels – are presented as conservation measures that would benefit at least some of the covered species. Yet, under the BDCP's terms discussed above, essentially all of those conservation measures are subject to being "modified, replaced, or supplemented" as a result of the adaptive management process. According to the BDCP, those conservation measures could be changed by the agreement of the BDCP's proponents and the resources agencies, without further public involvement.

There is no description of how SWP and CVP facilities upstream of the Delta actually would operate with the proposed tunnels. The "high outflow" scenario not only relies on speculative water transfers, but also assumes that the CVP would accrue undefined obligations to the SWP under the COA. (BDCP, p. 3.4-19.) The studies that would drive the decision tree's results "have not yet been determined." (BDCP, p. 3.4-32.) The structure and operation of the proposed Implementation Office and related groups, councils and teams is unclear. (BDCP, Ch. 7.) Uncertainties like these fail to convey to our agencies or the public an adequate understanding of the Plan or its possible effects. The BDCP and the DEIR/EIS therefore must be revised and recirculated for public review before any decisions can be made concerning permitting and implementation of the Plan.

1. The Decision Tree That Would Govern BDCP Operations I s Undefined, Contains Insufficient Detail to Understand How Water Operations Would Occur, and Will Generate Standards That Would Be Subject to Constant Modification

As proposed in the BDCP and described in the DEIR/EIS, the decision tree concerning spring and fall Delta outflows would allow for the completion of NEPA/CEQA review and permitting of the BDCP under the ESA and the NCCPA while the levels of those outflows are determined by regulatory agencies, DWR, USBR and the BDCP-proponent CVP and SWP contractors. (DEIR/EIS, p. 3-207.) The BDCP proposes that the decision tree process will conclude by the time that the proposed tunnels would begin operating. (BDCP, p. 3.4-25 ["Once CM1 operations begin, the decision-tree process will end"]; DEIR/EIS, pp. 3-207 to 3-208.) As described in the BDCP and DEIR/EIS, however, the decision tree process and the CVP/SWP operations that would be necessary to implement the H4/high outflow alternative are so uncertain that they cannot support any analysis that sufficiently informs the public of the possible impacts of implementing the BDCP. Moreover, the BDCP and DEIR/EIS state that, even after the decision tree process's conclusion, CVP/SWP operations would be subject to constant change under the BDCP's adaptive management rules.

Not even the studies that would underlie the decision tree process are defined. DEIR/EIS's Table 3.4.1-5 is titled "Key Uncertainties and Potential Research Actions Relevant to CM1." (DEIR/EIS, p. 3.4-32.) It identifies one key uncertainty as, "Are the initial spring outflow criteria . . . necessary, in conjunction with other conservation measures in the Plan, to achieve the biological objectives for the covered fish?" As a "Proposed Research Action" to resolve this question, however, the DEIR/EIS states only the following: "[Studies necessary to evaluate this uncertainty, which is the root of the spring outflow decision tree, have not yet been determined.]" Similarly, Table 3.4.1-5 identifies the following as the "key uncertainty" concerning fall Delta outflows: "Is the USFWS Reasonable and Prudent Alternative (RPA) action for Fall X2 . . . necessary, in conjunction with other conservation measures in the Plan, to achieve the delta smelt biological objectives?" In response, Table 3.4.1-5 states only the following: "[Studies necessary to evaluate this uncertainty, which is the root of the fall outflow decision tree, have not yet been determined.]" Similarly, the DEIR/EIS indicates that not even the hypotheses that would drive the decision tree studies have been determined; it describes the decision tree's first step as: "Clearly articulate scientific hypotheses designed to reduce uncertainty about what outflow criteria are needed . . . ." (DEIR/EIS, p. 3-207.) Accordingly, on the critical issue of what stream flows will be required for the BDCP to be permitted, the BDCP and DEIR/EIS do not even identify the studies that will be necessary for decisions to be made.

This lack of information prevents the BDCP from being adequate to support the issuance of any permits under the ESA and the NCCPA. The available information about the decision tree would not support USFWS, NMFS, and DFW making the specific determinations concerning the effect of the BDCP on the covered species under Section 10 of the ESA and Fish and Game Code section 2820 that would be required for those agencies to

issue the desired permits and plans. For example, given that even the studies to support the decision tree are not defined, DFW could not determine that the outcome of the decision tree would be a "specific conservation measure that meets the biological needs of the covered species and that is based on the best available scientific information," as required by Fish and Game Code section 2820(a)(6).

Similarly, the fact that the BDCP does not even identify the studies that will be necessary to resolve the decision tree causes the DEIR/EIS to be inadequate under NEPA and CEQA. The DEIR/EIS attempts to navigate the decision tree's uncertainties by including an analysis for each of the decision tree's four possible outcomes. This expansion of the possible proposed-project scenarios only creates confusion, however, because the DEIR/EIS also says that the four decision-tree/Scenario H outflow regimes could be combined with any of the project alternatives, not just the proposed-project Alternative 4, to create a "hybrid alternative." (DEIR/EIS, p. 3-202.) The DEIR/EIS therefore presents a range of what appear to be 36 different possible action alternatives, many of which are only addressed by the draft EIR/EIS as being within "the bookends created by the entire range of alternatives addressed in the EIR/EIS." (DEIR/EIS, p. 3-202.) This application of the decision tree to expand the DEIR/EIS's scope means that the document does not clearly identify for the public the project that may actually be implemented. Moreover, as discussed in more detail below, the BDCP's and DEIR/EIS's descriptions of how the decision tree's options would be implemented are inadequate.

Finally, even if it were possible for the decision tree to support adequate environmental analysis at this point, the BDCP suggests that the decision tree's results could be substantially revised as a result of periodic review. (BDCP, pp. 3.4-354 to 3.4-355.) "Every 5 years, water facility operating criteria will be comprehensively reevaluated as part of the program-level assessment conducted by the Implementation Office, as described in Chapter 6, Section 6.3.5, *Five-Year Comprehensive Review*." (BDCP, p. 3.4-354.) While this portion of the BDCP points to Section 6.3.5 as explaining how this comprehensive review of operating criteria would occur, Section 6.3.5 contains no detail on that subject. (BDCP, p. 6-27.)

2. The BDCP's and DEIR/EIS's Description of How the Decision Tree Would Be Implemented Renders the BDCP and DEIR/EIS Inadequate

The descriptions in the BDCP and DEIR/EIS of how the CVP and the SWP would operate are deficient for both the decision tree outcome that is likely to be permitted initially and for all possible decision tree outcomes. The BDCP proposes that its proponents be issued ITPs under the ESA and the NCCPA before analysis under the decision tree is complete. The BDCP, however, acknowledges that some decision must be made at the permitting stage about what decision tree variant will be the default project to be implemented:

> This decision tree and the BDCP must account for several important and distinct timing issues. First, in the near-term at the time of permitting, the fish

> and wildlife agencies must make decisions based on the best scientific and commercial data available at that time . . . . [¶] The parties understand and appreciate these timing issues. For permitting purposes, the applicants propose a project with operational and flow criteria intended to achieve the biological goals and objectives, which, among other things, include the range of operational and flow criteria for the high-outflow and low-outflow scenarios. *It is expected that USFWS, CDFW and NMFS will issue a permit for the proposed project, which may include as permit terms and conditions the operational and flow criteria related to the high-outflow scenario in the application.* (BDCP, p. 3.4-24, emphasis added.)

The BDCP and DEIR/EIS give no reason to believe that the ESA and NCCPA permits that the project proponents are seeking in the near term would do anything other than set the H4/high outflow standards as the default permit terms for BDCP operations, subject to possible change under the decision tree. Review of the BDCP, however, confirms that the proposed project provides no meaningful information about how the H4/high outflow scenario would be implemented. The BDCP's Table 3.4.1-1 is entitled "Water Operations Flow Criteria and Relationship to Assumptions in CAL-SIM Modeling." (BDCP, p. 3.4-18.) That table describes, for the "Parameter" entitled "Spring outflow," the Delta outflow criteria that would be implemented in the H4/high outflow scenario. (BDCP, p. 3.4-19.) Table 3.4.1-1 then states the following concerning how that scenario would be implemented:

> March-May outflow targets are achieved using flow supplementation provided through an approved water transfer, by limiting CVP and SWP Delta exports to a total of 1,500 cfs, and finally, if these two water sources have been utilized, through releases from Oroville, with subsequent appropriate accounting adjustments between the SWP and the CVP.

Other than the 1,500 cfs limitation that could be imposed on CVP/SWP Delta exports, none of these key means of implementing the H4/high outflow scenario appears to be defined anywhere in the BDCP documents. Those documents do not identify the source and amounts of any transfer water that would contribute to meeting the H4/high outflow requirements. It is impossible to determine what resources could be affected by the water transfers that apparently would be necessary to implement the decision-tree variant that is the most likely to be reflected in any ESA or NCCPA permits that would be issued in the near term. Thus, the DEIR/EIS's analysis is inadequate because it does not incorporate key components of the most likely proposed project.

Similarly, the lack of any "subsequent appropriate accounting" that reflects the obligations that would apply to the CVP if SWP water from Oroville Reservoir were used as the primary supply to meeting the H4/high outflow scenario renders the DEIR/EIS's environmental analysis inadequate. The BDCP documents do not appear to make any attempt to allocate to the CVP any effects that would result from the "subsequent appropriate accounting" between the CVP and the SWP that would occur as a result of releases from Oroville to meet the H4/high outflow requirements. Nonetheless, under the existing COA the

release of substantial amounts of water from the SWP's Oroville Reservoir at least could result in upstream CVP reservoirs – primarily Shasta and Folsom Reservoirs – increasing releases at later times to meet some other Delta water quality standard or other regulatory requirement. The BDCP and DEIR/EIS apparently make no attempt to define or model any such impacts on CVP reservoirs, however. The lack of any such analysis appears to surface in odd BDCP hydrologic modeling results. For example, those modeling results show end-of-September storage in Folsom Reservoir *increasing* in the H4/high outflow scenario at many exceedance levels relative to the No Action Alternative (DEIR/EIS Appendix 5A, p. 5A-C113), even though the H4/high outflow scenario would place a large new demand for spring releases on the SWP, which presumably would have to be adjusted under the COA. COA adjustment would result in some of the increased spring demand being applied to Folsom Reservoir (as well as Shasta), reducing storage in that reservoir. This is contradicted by the BDCP modeling results. The failure to incorporate any rules to reflect "subsequent appropriate accounting" under the COA for the increased release requirements that the H4/high outflow scenario would impose on the SWP's Oroville Reservoir renders the BDCP and the DEIR/EIS inadequate.

3. The BDCP and DEIR/EIS Do Not Adequately Describe How the BDCP Would Affect CVP Operations

One of the BDCP's fundamental purposes is to provide DWR and the BDCP contractors with 50 years of coverage under the ESA and the NCCPA. The BDCP proponent contractors are a subset of the entire CVP/SWP project water service contractors and also do not include the settlement contractors. The BDCP explains that the DWR and BDCP proponent contractors' further obligations for maintaining the species covered by the BDCP would be limited under the No Surprises policy and other policies. (BDCP, pp. 6-28 to 6-30, 6-45 to 6-46.) The BDCP, however, acknowledges that USBR – and, implicitly through USBR, the CVP contractors who are not BDCP proponents – cannot receive that level of regulatory certainty because USBR's operation of the CVP generally would be subject to possible consultation under ESA Section 7(a)(2). (BDCP, pp. 7-9 to 7-10.) The BDCP and DEIR/EIS are inadequate because they assume that, but do not adequately explain how actions under the BDCP could be disentangled from USBR's operation of the CVP. They also do not adequately explain the potential effects on other water users and the environment of implementing the BDCP given the proposed significant limitations on BDCP proponents' responsibilities for the relevant listed species.

The DEIR/EIS describes USBR's action as follows:

> Reclamation's action in relation to the BDCP would be to adjust CVP operations specific to the Delta to accommodate new conveyance facility operations and/or flow requirements under the BDCP, in coordination with SWP operations. (DEIR/EIS, pp. 3-1, 3-5, 3-40.)

This is not a sufficient project description. How will USBR adjust CVP operations? Affected operations are not limited to the Delta – the effects extend upstream to the

Sacramento River and its tributaries, and the Folsom and Shasta reservoir operations. None of this is addressed in the DEIR/EIS, as discussed below. Moreover, the BDCP indicates that its terms will affect USBR's ESA consultations, stating, "[f]or Delta operations, the BDCP will provide the basis for the ESA Section 7 consultation on the coordinated long-term operation of the CVP." (BDCP, p. 7-10.)

The BDCP, however, contains no CVP operations plan that could explain how CVP "operations specific to the Delta" could be segregated from other CVP operations so that each set of operations would bear only its appropriate level of responsibility for listed species during BDCP's 50-year term. USBR generally operates the CVP as a coordinated system. For many years, USBR's operation of the CVP and DWR's operation of the SWP has been the subject of ESA biological opinions covering all project operations. As discussed above in relation to the H4/high outflow alternative, the BDCP obliquely acknowledges that SWP operations under that alternative – and presumably all other alternatives – may trigger obligations under the COA under which the CVP would need to contribute resources as part of "subsequent accounting" due to the SWP's operation to contribute water from Oroville Reservoir to meet the H4 Delta-flow requirements. (BDCP, p. 3.4-19.)

The BDCP creates a significant risk to water users who are not BDCP proponents that their water uses will be affected by events that would be within what the BDCP defines as "unforeseen circumstances." (See BDCP, pp. 6-45 to 6-46.) Under the Plan, BDCP proponents presumably would be immune from most consequences of such circumstances' occurrence, but the BDCP does not explain how those assurances could affect other water users, and especially CVP contractors who are not BDCP proponents. If the BDCP had contained an operations plan demonstrating how USBR would operate in conjunction with BDCP to address the needs of those non-BDCP CVP contractors, it might have been possible for the DEIR/EIS to explain how granting BDCP proponents' desired assurances might affect those other water users. No such operations plan exists. Instead, as discussed elsewhere in these comments, and in the above-referenced comments of the American River Water Agencies, the BDCP's hydrologic modeling assumes that, in the case of climate change, USBR generally would operate upstream reservoirs so that they would go dry in 10 precent of years, which would cut off supplies to many contractors and the communities they serve.

Without a well-described operations plan for at least the CVP that explains how BDCP's terms – especially, the regulatory assurances its proponents would receive – would be integrated with CVP operations outside the scope of the Plan, the BDCP and DEIR/EIS lack evidence necessary to support the required findings under the ESA and NCCPA or under NEPA and CEQA.

4. BDCP's Conservation Strategy Is Subject to So Much Uncertainty That It Does Not Permit Adequate Environmental Review

Both the BDCP's conservation strategy as a whole and many of its individual conservation measures are subject to so much potential variation in their definitions and implementation that they give the public little idea of what the proposed project actually is –

other than the proposed 9,000 cfs diversion and tunnels. The BDCP thus fails to provide sufficient information to support approval as an HCP, NCCP or adequate environmental review under NEPA and CEQA.

The inappropriate level of uncertainty embedded in the BDCP is demonstrated most clearly by the Plan's statements that even the problem statements and biological objectives that drive how the conservation strategy is defined are subject to substantial revision. The BDCP describes a nine-step overall adaptive management process that would culminate in "Step 9: Adapt." (BDCP, pp. 3.6-13 to 3.6-19.) The BDCP describes that step as the "primary decision-making step of the adaptive management process." (BDCP, p. 3.6-21.) It further makes clear that even aspects of the conservation strategy as fundamental as biological problem statements and objectives may be changed through this process, at any time:

> The Adaptive Management Team will reexamine elements of the conservation strategy in the context of the nine-step adaptive management process and recommend revised management approaches, as appropriate. For example, this may entail revisions to problem statements, biological objectives, conceptual models, implementation actions, or monitoring actions. The Adaptive Management Team will recommend changes to conservation measures or biological objectives consistent with the sequencing of tools and resources described in Section 3.4.23, *Resources to Support Adaptive Management*, to the Authorized Entity Group and Permit Oversight Group for decision. (BDCP, p. 3.6-19.)

Just how broadly adaptive management may alter the whole conservation strategy is revealed in statements such as: "The Adaptive Management Team will periodically reexamine all elements of the conservation strategy in the context of the adaptive management process and recommend revisions, as appropriate." (BDCP, p. 3.6-21.) The BDCP contains specific terms governing the process for changing biological objectives and conservation measures. (BDCP, pp. 3.6-22 to 3.6-25.) Under those terms, biological objectives and conservation measures could be modified by a consensus of the Authorized Entity Group – i.e., representatives of BDCP's proponents – and the Permit Oversight Group – i.e., the resource agencies:

> If the Authorized Entity Group and the Permit Oversight Group agree that the proposed changes are warranted, the relevant conservation measures or biological objectives will be modified and such changes implemented as directed. (BDCP, p. 3.6-23.)

The BDCP presents certain constraints on modifications of conservation measures, but those constraints are not particularly limiting:

> Changes to a conservation measure will be limited to those actions reasonably likely to ensure that (1) the impacts (or levels of impacts) of a covered activity on covered species that were not previously considered or known are

> adequately addressed or (2) a conservation measure or suite of conservation measures that is less than effective, particularly with regard to effectiveness at advancing the biological goals and objectives, is modified, replaced, or supplemented to produce the expected biological benefit. (BDCP, p. 3.6-24.)

All elements of the BDCP – even the proposed new North Delta diversion and tunnels – are presented as conservation measures that would benefit at least some of the covered species. Yet, under the BDCP's terms discussed above, essentially all of those conservation measures are subject to being "modified, replaced, or supplemented" as a result of the adaptive management process. According to the BDCP, those conservation measures could be changed by the agreement of the BDCP's proponents and the resources agencies, without further public involvement.

These fundamental problems are not excused by the fact that the BDCP is required to incorporate adaptive management. Under the NCCPA, the BDCP may be permitted as an NCCP only if it integrates adaptive management strategies and contains an adaptive management program. (Fish & G. Code, §§ 2820(a)(2), (a)(8).) However, the NCCPA also requires:

> The plan contains *specific conservation measures that meet the biological needs of covered species* and that are based upon best available scientific information regarding the status of covered species and the impacts of permitted activities on those species. (Fish & G. Code, § 2820(a)(6), emphasis added.)

The NCCPA therefore requires that an NCCP demonstrate scientifically how it will "meet the biological needs of covered species" and include an adaptive management program that shows how the permittee will account for uncertainties and changed circumstances in implementing that plan to meet those biological needs. The Delta Reform Act confirms that this is the sort of adaptive management the BDCP must reflect. If the BDCP were permitted, the Delta Reform Act would require that DWR and DFW report to the DSC at least annually on project implementation and adaptive management. (Wat. Code, § 85320(f).) The Act defines "adaptive management" as follows:

> "Adaptive management" means a framework and flexible decisionmaking process for ongoing knowledge acquisition, monitoring, and evaluation leading to continuous improvement in management planning and *implementation of a project* to achieve *specified objectives*. (Wat. Code, § 85052, emphasis added.)

Both the NCCPA and the Delta Reform Act therefore require that an adaptive management program be based on a defined project that is demonstrated to implement specified objectives that will meet covered species' needs.

For all these reasons the objectives and terms of the BDCP's proposed adaptive management program are so uncertain that they fail to satisfy the NCCPA's and Delta Reform

Act's standards for adaptive management and do not provide sufficient information to support adequate environmental review under CEQA and NEPA. As discussed below, the high level of uncertainty in BDCP's description of specific conservation projects independently supports this conclusion. Finally, as discussed in more detail in the enclosed technical memoranda by Dave Vogel and Robert Latour, Ph.D., the problems and uncertainties in BDCP's project elements and technical analyses concerning salmonids and pelagic fish indicate that BDCP is not a plan that can be demonstrated to meet the biological needs of covered salmonid and pelagic fish species. In short, BDCP is a concept, not a plan. The fact that, to be permitted, the BDCP would need to contain an adaptive management plan does not correct its fundamental flaw that it is too uncertain for environmental review and permitting. In fact, the BDCP's adaptive management program in itself supports this conclusion.

With the entire BDCP being subject to high levels of possible change and uncertainty, with project changes apparently possible at any time, there is no project description of the proposed Plan that is sufficient under the ESA, the NCCPA, NEPA, and CEQA. Contrary to CEQA's requirement that a project description be "accurate, stable and finite" (*Concerned Citizens of Costa Mesa, supra,* 42 Cal.3d at p. 938), the BDCP is intentionally defined to be unstable and indefinite. Because this problem is embedded at the core of BDCP's conservation strategy, the BDCP and DEIR/EIS's environmental analysis cannot be adequate.

5. Specific Elements of BDCP's Conservation Strategy Are Subject to So Much Uncertainty That They Cannot Support an Adequate Project Description

The uncertainties associated with many of the BDCP's conservation measures emphasize the point that the overall project description is too amorphous to be adequate, but also themselves are sufficient reasons why the project description is inadequate.

a. Conservation Measure 2 (CM2) – Yolo Bypass Fisheries Enhancement

There are two key reasons why the DEIR/EIS's treatment of this key conservation measure, CM2, is inadequate. First, the BDCP explicitly states that this conservation measure is subject to a separate EIR/EIS that will "further refine" the measure and that is projected for completion by "year 4" of BDCP's implementation. (BDCP, p. 3.4-48; see also DEIR/EIS, p. 3-124.) The actual environmental analysis of this conservation measure therefore is effectively deferred to a later environmental document. Deferring analysis of a key element of the project is improper. (*Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 440-441.)

Second, CM2 includes numerous component parts, many of which would be subject to substantial development, possibly modification and even rejection during the BDCP's evolution. The DEIR/EIS states that CM2 includes "20 component projects that are to be implemented in four phases" and that, if the YBFEP [Yolo Bypass Fisheries Enhancement Plan] evaluation does not support implementation of one or more of the project components,

they would not be implemented." (DEIR/EIS, pp. 3-45, 3-124.) The development of those projects will be subject to, among other things: (i) consideration of alternative actions; (ii) analyses of those projects' compatibility with the Yolo Bypass's core function as a flood control facility; and (iii) consultation with resource agencies, counties and reclamation districts, among others. (BDCP, pp. 3.4-48 to 3.4-51.) Moreover, the DEIR/EIS acknowledges that some of the components may be controversial and only proceed after another EIR/EIS. (DEIR/EIS, p. 3-124 [Category 3 actions].) Some of the component "projects" are actually only studies. (BDCP, pp. 3.4-51 to 3.4-54 [component projects 4, 5, 13]; DEIR/EIS, pp. 3-125 to 3-128.) Some of the component projects will only be implemented "if determined appropriate" or "if it is deemed necessary," presumably at some later date. (BDCP, pp. 3.4-51, 3.4-53.) Physical modifications to the Yolo Bypass to direct or restrain flow would be defined "through modeling and further concept development . . . ." (BDCP, p. 3.4-53.) The operations scenarios for modifying the Fremont Weir "are expected to be typical of, but not necessarily identical to, actual operational guidelines that will be developed in the course of subsequent project-specific design, planning, and environmental documentation." (BDCP, pp. 3.4-54 to 3.4-55.) In other words, the actual description of how that key component of the BDCP's conservation strategy would be implemented and operated is deferred for future development. These uncertainties concerning the many component parts of BDCP's CM2 prevent that measure from supporting an adequate project description and environmental review.

b. Conservation Measure 5 (CM5) – Seasonally Inundated Floodplain Restoration

Similar to the component parts of CM2, CM5 is so vaguely defined that it cannot support an adequate project description. CM5 would seek to "restore 10,000 acres of seasonally inundated floodplain along river channels throughout the Plan Area." (DEIR/EIS, p. 3-137.) However, there is no particular definition of what actions would be involved in implementing this conservation measure. Both the BDCP and the DEIR/EIS contain a list of possible actions, but preface that list by stating "[a]ctions to restore seasonally inundated floodplain habitats may include but are not limited to the following." (BDCP, p. 3.4-147; DEIR/EIS, p. 3-138.) In other words, there is no constraint on what habitats might be restored in the plan area, or where such restoration would occur. The most specific information defining this conservation measure is a "concept-level" plan that identifies four "south Delta" corridors where this conservation measure might be implemented and a list of factors that would be considered in siting and designing the restored habitat. (BDCP, p. 3.4-148.) CM5 is not defined well enough to support an adequate project description and environmental review.

c. Conservation Measure 6 (CM6) – Channel Margin Enhancement

Similar to CM5, CM6 contains significant uncertainties that prevent it from supporting an adequate project description and environmental review. The BDCP defines CM6 as involving the enhancement of 1,200 acres of habitat spread across three conservation zones

without defining specific locations. (BDCP, p. 3.4-195.) Similar to CM5, CM6 contains a list of possible restoration actions, but prefaces that list by stating that actions that could be implemented would "include, but are not limited to, the following." (BDCP, p. 3.4-196.)

d. Conservation Measure 15 (CM15) – Localized Reduction of Predatory Fishes

The BDCP's problem statement for CM15 identifies several factors that it says must be considered in determining whether to implement predator reduction measures. (BDCP, p. 3.4-294.) Those factors include "[d]o biological benefits outweigh costs and social/political considerations?" (BDCP, p. 3.4-294.) The BDCP then states that, "[g]iven these uncertainties and constraints," CM15 "will initially be implemented as an experimental pilot program and a series of connected research actions." (BDCP, p. 3.4-295.) In other words, the entire conservation measure is subject to further definition that depends on studies to be completed after the BDCP is permitted. This lack of specificity regarding the project cannot support permitting under the ESA or the NCCPA or adequate environmental analysis under NEPA and CEQA.

e. Conservation Measure 16 (CM16) – Nonphysical Fish Barriers

CM16 would involve the installation of "nonphysical barriers to redirect juvenile fish away from channels and river reaches in which survival is lower than in alternate routes." (BDCP, p. 3.4-313.) The measure, however, is undefined at this time. The BDCP states:

> The Implementation Office *may* install nonphysical barriers at the sites described below . . . . The cost estimate for this conservation measure ... assumes that seven barriers would be constructed and operated during the permit term; *however, fewer than seven barriers may be constructed if they are found to be less effective biologically and more expensive per barrier than the cost estimates* . . . . [¶] The Implementation Office may consider other locations in the future, if, for example, future research demonstrates differential rates of survival in Sutter and Steamboat Sloughs or in the Yolo Bypass relative to the mainstem Sacramento River. (BDCP, p. 3.4-315, emphasis added.)

In other words, CM16 appears to be subject to complete reevaluation depending on at least the ultimate cost of the proposed barriers and relative effectiveness of barriers in different locations. This is not a stable and finite description of a project that can support permitting under the ESA and NCCPA or adequate environmental analysis under NEPA and CEQA.

f. Conclusion

With the entire BDCP being subject to high levels of possible change and uncertainty, with project changes apparently possible at any time and without full environmental review, there is no way the BDCP can satisfy CEQA's requirement that a project description be "accurate, stable and finite." (*Concerned Citizens of Costa Mesa*, *supra*, 42 Cal.3d at p. 938.) To satisfy CEQA and NEPA's informational requirements, both the BDCP and DEIR/EIS must be revised to provide meaningful detail about the project and an analysis of the potential impacts of each conservation measure upon which the Plan depends, supported by facts, and recirculated for public review before any decisions can be made concerning permitting and implementation of BDCP.

B. The Modeling of Bay-Delta Hydrology Is Fundamentally Flawed and Thus Fails to Comply With CEQA

It is well established that an EIR must be "prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." (CEQA Guidelines, § 15151.) As the California Supreme Court has said, an EIR must disclose to the public the "analytic route the agency travelled from evidence to action" and in doing so, the EIR "must contain facts and analysis, not just the agency's bare conclusions or opinions." (*Citizens of Goleta Valley v. Board of Supervisors*, (1990) 52 Cal.3d 553, 568.) CEQA Guidelines recognizes that the evaluation of the effects of a project "need not be exhaustive" and that the courts have "looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." (CEQA Guidelines, § 15151.)

Two important decisions inform the way in which the courts have interpreted these standards. In *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344 (*Berkeley Keep Jets Over the Bay*), the court considered the lead agency's use of an outdated air emissions profile. (*Id.* at pp. 1364-1365.) The state agency with relevant expertise, in that case the California Air Resources Board, commented that the Port Authority EIR's use of the outdated emissions information would "prevent a decisionmaker and the public from gaining a true understanding of one of the most important environmental consequences of increasing the number of flights." (*Id.* at pp. 1366-1367.) When reviewing the lead agency's use of the outdated emissions profile, the court found that the EIR did not meet the standard contained in Section 15151 requiring "a good faith effort at full disclosure." (*Id.* at p. 1367.)

More recently, in *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260 (*Preserve Wild Santee*), the court considered a water supply assessment that estimated the demands of a proposed project at 881 acre-feet/year (AFY) in the context of an EIR that estimated the demands at 1,446 AFY. The court found that the EIR did not explain the discrepancy and that "such an unexplained discrepancy precludes the existence of substantial evidence to conclude sufficient water is likely to be available for the project." (*Id.* at p. 284.) Further, the court noted that where there is uncertainty of future water supplies, "the EIR must

discuss possible replacement sources or alternatives to the use of the anticipated water, and of the environmental consequences of those contingencies. As the EIR in this case failed to include such a discussion in its analysis of the project's water supply impacts, it failed to meet CEQA's requirements." (*Id.* at p. 285.) Finally, in regard to the project's proposal to provide additional groundwater to maintain levels in a lake, the water supply assessment did "not account for any water demands associated with filling and recharging the lake." (*Id.* at p. 286.) In response, the court noted that "[a]n EIR may not ignore or assume a solution to the problem of supplying water to a proposed project. The EIR in this case has done exactly that by failing to analyze the impacts of obtaining potable water to fill and recharge the lake if there is insufficient groundwater for this purpose. Thus, it fails to satisfy CEQA's requirements." (*Ibid.,* internal citations omitted.)

For the reasons discussed below, the modeling used for the DEIR/EIS fails to comply with the above legal standards. As a consequence, the water supply modeling for the BDCP – which is the foundation for all of the other effects analysis – fails to satisfy CEQA and NEPA. Under these circumstances, the project proponents must: (i) fully revise the modeling used to analyze the BDCP, and (ii) recirculate the entire DEIR/EIS for public review.

1. The BDCP Used the Wrong Model Version

The most thorough technical analysis of the BDCP modeling has been performed by MBK Engineers, a recognized expert on CalSim II modeling of the operations of the CVP and the SWP. (MBK Engineers and Daniel B. Steiner, Consulting Engineer, *Review of Bay Delta Conservation Plan Modeling* (July 11, 2014), Ex. F (MBK Report).) The remainder of the comments in this section (IV.B.1) are based on the analysis and conclusions contained in the MBK Report and so constitute the opinion of an expert for purposes of CEQA.

The MBK Report found that the DEIR/EIS based its analysis on the 2010 version of CalSim II and notes that that version of CalSim II "has undergone significant revision to not only correct errors in the model, but also to reflect regulatory changes that adversely affect the accuracy and dependability of the 2010 CalSim II Model." (MBK Report, p. 3.) As described in more detail below, the errors inherent in the use of the 2010 CalSim II model mean that the BDCP modeling analysis fails to satisfy the demands of CEQA Guidelines section 15151. In that regard, the use of the 2010 CalSim II model is like the use of outdated emissions information in *Berkeley Keep Jets Over the Bay.* (91 Cal.App.4th at p. 1367.) Consequently, it is improper for the DEIR/EIS to rely on the modeling contained in that document; instead, the modeling must be redone and the DEIR/EIS revised to reflect the correct methodology and results, and recirculated for public review.

2. The Modeling Fails to Include an Operations Plan

As discussed above, CEQA requires that an EIR include a definite description of the project so that the public can understand what the lead agency is proposing. As the Court of Appeal has noted, "CEQA imposes requirements regarding (1) the time at which a project is defined and (2) the breadth of the definition. Because the EIR is intended to inform an

agency's decision regarding the project, CEQA requires that an accurate, stable and finite description of the project be established early enough in the planning stages of the project to enable environmental concerns to influence the project's program and design, yet late enough to provide meaningful information for environmental assessment." (*Planning & Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, 234-235, internal quotations and citations omitted.) Both for hydrologic and water quality issues, many of the operational aspects involve assumptions that are factored into the BDCP model. The model thus becomes the "project" for purposes of CEQA review. It is critical, then, that the model and its assumptions accurately and consistently reflect the proposed operation of the project. The MBK Report finds, however, that the modeling contains many flaws.

The MBK Report concludes, "[t]he BDCP Model contains erroneous assumptions, errors and outdated tools, which result in impractical or unrealistic Central Valley Project (CVP) and State Water Project (SWP) operations. The unrealistic operations, in turn, do not accurately depict the effects of the BDCP." (MBK Report, p. 1.) Also, "[i]n reviewing the BDCP Model it became apparent that coding errors and operating assumptions are inconsistent with the actual purposes of the projects, thus limiting the utility and accuracy of the [modeling] results." (*Id.* at p. 9.) The critical failings of the modeling undermine the accuracy and adequacy of the project description. Moreover, because the CalSim II modeling is the basis for all of the other effects analysis, these errors propagate throughout the entire document. As the MBK Report states, "[a]ny errors and inconsistencies identified in the underlying CalSim II model are therefore present in subsequent models and adversely affect the results of later analyses based on those subsequent models." (*Id.* at p. 10.)

3. The Modeling Fails to Accurately Describe the Project or Analyze Project Operations

After correcting for the many errors associated with the use of the 2010 CalSim II model, the MBK Report engages in an "apples to apples" comparison of the effects of the BDCP as compared to current operations of the CVP and SWP. In so doing, the MBK Report identifies a number of critical errors, which are detailed below. Each of these errors is sufficient to require that the DEIR/EIS be recirculated pursuant to CEQA.

a. The Modeling Understates Exports and Overstates Delta Outflow

The MBK Report finds that the BDCP modeling overstates Delta outflow and understates the export of water by the CVP and SWP by approximately 210,000 AFY. (MBK Report, p. 6.) The DEIR/EIS shows that there would be an increase in exports from the Delta of about 540,000 AFY, but according to MBK, when accounting for errors in the BDCP Model, the true increase would be about 750,000 AFY when the errors in the BDCP model are corrected. (*Ibid.*) In order to provide context for this error, 200,000 acre-feet is about one-fifth of the total capacity of Folsom Reservoir and about one-quarter of the total capacity of Diamond Valley Reservoir. According to the MBK Report, the reduced Delta outflow that would occur as a result of the much greater exports and that was not factored into

the model DEIR/EIS "has the potential to cause greater water quality and supply impacts for in-Delta beneficial uses and additional adverse effects on species." (*Id.* at p. 7.) However, none of these effects was analyzed in the DEIR/EIS due to the errors in the CalSim II modeling.

b. The Modeling Misstates Diversions From the North Delta Diversion and the South Delta

The MBK Report also finds that the BDCP modeling does not correctly reflect the location of diversions that the CVP and SWP will make from the Delta. Specifically, the MBK Report indicates that, after the BDCP model errors are corrected, the BDCP would result in the diversion of approximately 680,000 more acre-feet at the North Delta diversion than is described in the DEIR/EIS. (MBK Report, p. 7.) Conversely, there would be approximately 460,000 AFY less water diverted at the South Delta facility than is described in the DEIR/EIS. (*Ibid.)* The project's change in the location of diversions thus has the potential to substantially change Delta hydrodynamics by significantly reducing Delta outflow. The reduction in outflow threatens significant effects to Delta water quality and aquatic biological resources in the area between the two points of diversion. Due to the errors in the BDCP modeling, though, none of these potentially significant effects has been analyzed in the DEIR/EIS.

c. The Modeling Relies on Unknown Water Sources to Balance Operations

The MBK Report focused its analysis of the BDCP on Alternative 4/H4, the High Outflow Scenario, because that is the proposed project alternative DWR is most likely to select for approval. The reason MBK decided to focus on Alternative 4/HR is that, ever since Water Right Decision 1485 in 1978, the chief way that the SWRCB as well as the NMFS, the USFWS and DFW have sought to protect aquatic species is through increasing what is known as Delta outflow, i.e., the quantity of water that leaves the Delta for San Francisco Bay and the Pacific Ocean. As a general rule, over time the regulatory agencies have demanded ever-increasing quantities of Delta outflow to protect threatened and endangered fish species. As a result, the MBK Report assumed that the alternative that would be most likely to be approved by those regulatory agencies would be the alternative with the greatest Delta outflow, which is Alternative 4/H4.

In order to provide water for increased Delta outflows and yet not deplete cold water supplies needed in the late summer and early fall, the BDCP anticipates that the needed water would be acquired through water transfers from upstream water users. (MBK Report, p. 18.) However, the MBK Report notes that this approach is "unrealistic." Specifically, the MBK Report states that, "[d]uring most of the spring, when BDCP proposes that Delta outflow be increased, agricultural water users are not irrigating. This means that there is not sufficient transfer water available to meet the increased Delta outflow requirements without releasing stored water from the reservoirs." (*Ibid.*) In other words, the BDCP calls for the acquisition of new water supplies from agriculture at times when such water is not available,

or if it is available, would be inconsistent with other statements in the BDCP regarding project operation.

It is important to understand the reason that the MBK Report concluded that water would not be available from upstream water users. Those water users have contracts and/or water rights that allow them to divert water to meet their consumptive demands beginning with relatively small quantities of water in April, and then increasing quantities of water during the chief irrigation season during the summer. In this way, the use of water under these contracts tracks the demand for water for irrigated crops. However, if the goal is to provide water for fish, the timing of such demands is much earlier in the season, peaking in the March, April, or May time frame. Thus, meeting the needs of a fishery by means of transfers from agricultural contractors would require the diversion of water in quantities that far exceed the contractual quantities available during the spring outmigration. As a result, it is simply not plausible to provide water for fishery needs by transfer during the spring from agricultural contractors. This reliance on from unknown sources underscores and exemplifies the unrealistic nature of the BDCP modeling.

d. The BDCP Modeling Fails to Comply With the Coordinated Operations Agreement

The CVP and SWP coordinate their operations by means of the COA, which was initially approved by Congress almost thirty years ago. The BDCP modeling, however, assigns most of the responsibility for additional Delta outflow under the High Outflow Scenario to the SWP. This is inconsistent with the COA, which requires that if one project assumes a regulatory burden that applies to both projects, the other project will "pay-back" the first project in order to balance the various regulatory requirements.[5] In the case of the BDCP modeling, though, there is no provision to "pay-back" the SWP for shouldering the burden of increased Delta outflow. Thus, the MBK Report finds that the "BDCP Model overstates the impacts of increased Delta outflow on the SWP and understates the effects on the CVP." (MBK Report, p. 18.) In other words, the entire environmental analysis in the DEIR/EIS is flawed because it wrongly attributes certain flows from the CVP and others from the SWP. Here, the DEIR/EIS effectively overstates the effects of the BDCP on Lake Oroville and the Feather River system, while understating the effects on Shasta and Folsom Reservoirs and the Sacramento River system.

e. The Modeling of San Luis Reservoir and the Delta Cross Channel Gates Fails to Reflect Realistic Operations

Two other sets of errors in the BDCP modeling that are likely to create significant effects on the environment that were not analyzed in the DEIR/EIS occur in the modeling of San Luis Reservoir and the Delta Cross Channel Gates. The BDCP's modeling of storage at San Luis Reservoir uses an inappropriate target storage criterion that creates "problems in

[5] The COA can be found at https://archive.org/stream/agreementbetween00wash#page/n63/mode/1up.

upstream storage reservoirs and create[s] shortages for south of Delta water users that would not occur in the real world." (MBK Report, p. 17.) The MBK Report also identifies that the modeling does not account for closing the Delta Cross Channel Gates when, in a realistic operations scenario, those gates would be closed. (*Ibid.*) The CVP and SWP operate the projects in a manner that minimizes reservoir releases to the greatest extent possible, consistent with meeting the Delta outflow requirements, to preserve stored water for ultimate delivery to their respective contractors. However, the analysis in the DEIR/EIS did not reflect such project operations and so was not realistic. In this way, the BDCP modeling overestimates Delta outflow during October, which overestimates benefits of the BDCP to Delta smelt and reduces apparent effects of the BDCP to in-Delta diverters. Neither of these effects is analyzed in the DEIR/EIS.

4. The Modeling Fails to Accurately Depict Climate Change

The DEIR/EIS states that modeling of water quality and hydrologic impacts accounted for future changes in hydrology due to effects of climate change. However, the modeling does not reasonably represent future conditions with climate change because it failed to consider whether the CVP and/or SWP would seek to adapt their operations to respond to the challenges of climate change. As identified in the MBK Report, the CVP, SWP, and SWRCB already are implementing various adaptations to their operations to deal with the current and previous droughts. (MBK Report, p. 12.) All of these adaptations, which include updating flood control releases to reflect a changing climate, mandatory conservation, and modifying water allocation rules, reasonably can be expected to be continued in response to climate change. Each of these adaptations has a significant effect on the outcome of the model results. The failure to include consideration of these adaptations in the BDCP modeling undermines the validity of the results and the DEIR/EIS impact determinations on which they are based.

a. Modeling of Inflow to Millerton Is Incorrect

The DEIR/EIS attempted to analyze the effects of climate change at Millerton Lake (Friant Reservoir). However, that analysis did not adjust inflow into Millerton Lake to reflect the effects of climate change (decreased inflows). By overestimating inflows into Millerton, the modeling started a cascading series of errors that affected the output as it reflected the depiction of the entire CVP: overestimating flood control releases at Millerton and flows at the Mendota Pool, deliveries to the San Joaquin River Exchange Contractors of San Joaquin River water rather than water from the Sacramento Valley, underestimation of exports from the Delta and/or overestimates of Delta outflow. The MBK Report notes: "[t]his is a situation where one seemingly minor error cascades through the entire system . . . . In other words, all model results reported in the BDCP and associated Draft EIR/S contain this error, with the only exception of the Existing Biological Conditions baselines numbers 1 and 2 (EBC1 and EBC2), which are evaluated in the BDCP." (MBK Report, p. 11.)

Given these circumstances, both the decisions in *Berkeley Keep Jets Over the Bay* and *Preserve Wild Santee* indicate that the DEIR/EIS's analysis of climate change fails to satisfy

CEQA. The error in modeling will "prevent a decisionmaker and the public from gaining a true understanding of one of the most important environmental consequences" of the BDCP and so is comparable to the use of the outdated emissions data in *Berkeley Keep Jets Over the Bay*. (91 Cal.App.4th at pp. 1366-1367.) Moreover, the discrepancy between the estimates of Millerton inflow contained in the DEIR/EIS and the MBK Report is precisely the same type of discrepancy that the *Preserve Wild Santee* court found to preclude there being substantial evidence to support that EIR's conclusions. (*Preserve Wild Santee*, *supra*, 210 Cal.App.4th at p. 284.)

b. Modeling Fails to Account for Reasonable Existing and Future Climate Change Adaptations

The MBK Report did not attempt to evaluate whether the assumptions used in the BDCP modeling for climate change effects were accurate; instead, the MBK Report takes those assumptions as a given and then attempts to see whether those assumptions were properly modeled in evaluating the potential effects of the BDCP on the environment. The MBK Report concludes that the BDCP modeling is simply not realistic:

> [w]ith the predicted changes in precipitation and temperature implemented in the BDCP modeling, there is simply not enough water available to meet all regulatory objectives and water user demands. Yet the BDCP modeling continues its normal routine and thus fails to meet its objectives. In this aspect, the BDCP modeling simply does not simulate reality. (MBK Report, p. 12.)

The MBK Report notes that the experience of California during the current drought undermines the BDCP modeling simplistic assumption of "business as usual." The MBK Report states: "[t]he likelihood of an appropriate operational response to climate change is seen in the many modifications to CVP and SWP operations made during the past few months to respond to the current drought and supports the likelihood of future adaptations." (MBK Report, p. 12.) And, the "BDCP's simplistic approach of assuming a linear operation of the CVP and SWP produces results that are not useful for dealing with the complex problem of climate change because it does not reflect the way in which the CVP and SWP would actually operate whether or not the BDCP is implemented." (*Id.* at p. 13.) Ultimately, the MBK Report concludes: "the future condition [with climate change] will not be as depicted in the BDCP Model." (*Ibid.*)

As noted above, CEQA does not require perfection, but it does require that an EIR be adequate, complete and reflect "a good faith effort at full disclosure." By failing even to consider whether the CVP and/or SWP would seek to adapt their operations to respond to the challenges of climate change, the document is neither adequate nor complete and certainly does not reflect a good-faith effort at disclosure. (See *Preserve Wild Santee*, *supra*, 210 Cal.App.4th at p. 286 [lead agency may not ignore a problem or a potential solution].)

5. Conclusion

In each of these ways, the BDCP modeling fails to meet one of the essential standards for an EIR: to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (CEQA Guidelines, § 15003(d).) Moreover, individually and collectively, these errors in the BDCP modeling fail to meet the standards established in *Berkeley Keep Jets Over the Bay* and *Preserve Wild Santee*. Specifically, the misstatements regarding the quantities of exports and Delta outflow, the allocation of BDCP diversions between the North Delta Diversion and the South Delta, the need for additional water to meet the outflow requirements of the High Outflow Scenario, the failure to consider the effects of the COA on the allocation of water between the CVP and the SWP, and the failure to realistically operate San Luis Reservoir and the Delta Cross Channel Gates all would "prevent a decisionmaker and the public from gaining a true understanding of one of the most important environmental consequences" of the BDCP and therefore fail to satisfy CEQA's standards. (*Berkeley Keep Jets Over the Bay*, *supra*, 91 Cal.App.4th at p. 1367.) Further, the discrepancies in the quantities of exports and the location of those exports represent substantial changes in the nature of the effects analyzed in the DEIR/EIS; those changes – by themselves – require that it be recirculated. (CEQA Guidelines, § 15088.5(a)(2) [substantial increase in the severity of an impact requires recirculation].)

Specifically, the BDCP modeling overestimates Delta outflow by 210,000 AFY, thereby understating a host of potentially significant environmental impacts (e.g., the effects of salinity intrusion on water quality as well as habitat for fish, etc.). The modeling also underestimates the quantity of water that would be diverted at the North Delta diversion by about a half million AFY, and so assumes that there will be far more fresh water in the Delta than would, in fact, be the case. Overestimating the fresh water of the Delta is likely to have significant impacts on a number of fish species, including listed salmonids and Delta smelt. Last, but certainly not least, the DEIR/EIS's failure to discuss the sources and availability of the additional water needed to satisfy the Delta outflow objectives for the High Outflow Scenario is not consistent with the standard contained in *Preserve Wild Santee*, which requires that the DEIR/EIS discuss the potential alternative sources for such water and states that an "EIR may not ignore or assume a solution to the problem of supplying water to a proposed project." (*Preserve Wild Santee*, *supra*, 210 Cal.App.4th at pp. 285-286.) Given the magnitude of these errors, and the substantial evidence of new and more severe significant impacts contained in the MBK Report, DWR must revise the DEIR/EIS and recirculate it for public review.

C. The DEIR/EIS Fails to Adequately Analyze BDCP Impacts to Sacramento River Basin Anadromous Salmonids or Pelagic Fish

The DEIR/EIS states that it incorporates the BDCP by reference. (DEIR/EIS, p. 1-2, fn. 3.) The problems with the BDCP's fisheries analysis therefore are problems with the DEIR/EIS. As discussed elsewhere in these comments and his enclosed report, Robert Latour, Ph.D., has reviewed the BDCP's analysis of pelagic fish issues and determined that

the analysis is not supported by the best available science in many ways. Several of those deficiencies cause that analysis to be insufficient to support the DEIR/EIS as well. In particular:

- There is significant uncertainty in the analyses on which the BDCP relies to project increased pelagic fish populations, and the Plan does not adequately address that uncertainty;

- The BDCP does not use readily available quantitative ecosystem models like Ecopath to assess the proposed project's effects and instead relies on qualitative analyses of key ecosystem relationships; and

- The BDCP does not adequately account for potential errors at each stage of its multi-stage analyses.

These problems cause there to be a lack of substantial evidence to support the DEIR/EIS's pelagic-fish analysis.

Moreover, as detailed in the report and analysis prepared by expert fisheries biologist Dave Vogel (Ex. D), the BDCP's potential adverse impacts to anadromous salmonids could be catastrophic. In addition, Mr. Vogel's detailed review of the BDCP documents indicates that they contain a deeply flawed analysis of the potential effects and impacts of the BDCP on anadromous fisheries.

In particular, the BDCP used a variety of models to evaluate the Plan's potential effects on salmon. As described in detail in Mr. Vogel's report, those models used for the BDCP were particularly constrained because of a lack of empirical data, incorrect data, and very low reliability and confidence in the models' outputs, which render model run outputs invalid and incapable of comparing BDCP alternatives. In many instances, inputs to the models were based on inflated and biased fish survival estimates that would not provide valid comparisons of the BDCP scenarios. The BDCP and DEIR/EIS also did not use the best available data.

As also noted by Mr. Vogel, when the models suggested unfavorable results (i.e., adverse impacts on salmonids), they were downplayed or not used. Conversely, when the models suggested favorable results (i.e., beneficial impacts on salmonids), they were overplayed and used. Because there was so much reliance on models for the BDCP analyses and impact determinations, it is critical to understand the very serious limitations of those models. The documentation for various models describes some of the limitations, but those discussions are fragmented and buried in the voluminous appendices, and commonly not carried forward into the main body of the BDCP document. Nor are the limitations clearly disclosed in the DEIR/EIS.

Problems with the models themselves, the DEIR/EIS's failure to plainly disclose the limitations in the models, and the selective use of data and results favorable to the BDCP,

deprived the public of meaningful information necessary to informed decisionmaking and cast serious doubt on the integrity and validity of the DEIR/EIS's determinations as to the BDCP's impacts on anadromous fish.

These fundamental analysis errors identified by Dr. Latour and Mr. Vogel must be corrected before the DEIR/EIRS can be used to accurately characterize the BDCP's effects on anadromous salmonids or pelagic fish.

D. The DEIR/EIS Fails to Adequately Analyze BDCP Impacts on Sacramento Valley Waterfowl and the Pacific Flyway

Many avian species use the Sacramento Valley's irrigated croplands as winter and breeding habitat. These croplands, especially small grains, provide crucial habitat in the Pacific Flyway, especially in areas such as the Central Valley where only a fraction of historic wetlands remain. The habitat values created by these croplands are described in detail in the Central Valley Joint Venture 2006 Implementation Plan (www.centralvalleyjointventure.org/science). As mentioned above, the BDCP and DEIR/EIS do not adequately analyze the impact on the Sacramento Valley's water supplies, including the potential reduction in the diversions of water that support avian habitat values on both irrigated cropland and natural wetlands. This includes both direct diversions of water to support these values, as well as tailwater from other agricultural uses and managed wetlands. Mark Petrie with Ducks Unlimited describes these impacts in detail in his comments for the November 14, 2012 SWRCB workshop on the Bay-Delta Plan (http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments111312/mark_petrie.pdf). These Sacramento Valley impacts are described in more detail in comments on the DEIR/EIS by Ducks Unlimited, which are incorporated here by reference.

E. The DEIR/EIS Fails to Adequately Analyze BDCP Impacts on Sacramento Valley Groundwater Supplies

The DEIR/EIS discusses the potential for the BDCP to result in "minor decreases in water supply availability to CVP water users in the Sacramento Valley . . . ." (See *Analysis of Groundwater Conditions in Areas that Use SWP/CVP Water Supplies*, DEIR/EIS, p. 7-32, lines 30-40.) The estimated decrease in supply is 50,000 AFY. The section concludes, "[a] 2% increase in groundwater use in the Sacramento Valley to make up for any shortfalls in surface water supply is not anticipated to substantially impact the groundwater resources as long as the additional pumping is not concentrated in a particular area of the valley." This claim requires additional analysis. Who exactly are the Sacramento Valley CVP contractors that are being referenced? What is their distribution through the valley? What is the respective decrease in surface water for each? Overall the analysis of these impacts appears to focus on San Joaquin and Tulare Lake basins as well as on agricultural users, as opposed to municipal users.

The DEIR/EIS indicates the BDCP will have a negative impact on certain unidentified groundwater supplies. In considering the 2 percent proposal one must assume that the

increase is not applied uniformly over the entire Sacramento Valley. No information is provided as to where additional pumping will take place, whether it will it interfere with existing conjunctive use programs, or whether it will exacerbate existing groundwater overdraft or cause groundwater overdraft in locations where that condition does not presently exist. As described in the American River Water Agencies' BDCP comment letter, municipal areas such as the Sacramento region – which is projected to be deprived of a huge component of its water supply due to the drawdown of Folsom Reservoir to dead pool 10 percent of the time[6] – will be required to find alternative water supplies, one of which is groundwater. This additional groundwater pumping would necessarily be geographically focused, as is municipal population. The impacts of such pumping are ignored in the BDCP and BDCP DEIR/EIS.

Furthermore, the DEIR/EIS states that additional pumping will not be concentrated in a particular area of the valley, but it does not describe the criteria that will be used to make that decision or how that decision may impact current and future users of the groundwater basin. How can individual purveyors and water users who participate in an existing or future groundwater management program be assured that they will not be negatively impacted by a proposal to increase groundwater pumping so that additional surface water can be redirected to the Delta or the south state?

F. The DEIR/EIS Does Not Adequately Address Socioeconomic Impacts

NEPA requires that an EIS address a project's socioeconomic effects. (40 C.F.R. §§ 1502.16, 1508.8; U.S. Bureau of Reclamation, *Reclamation's NEPA Handbook* (Feb. 2012), pp. 8-15, 8-17.) CEQA requires that an EIR address a project's socioeconomic effects that generate environmental consequences. (CEQA Guidelines, §§ 15064(e), 15131; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1204-1213.) As described below, the DEIR/EIS fulfills neither requirement.

1. The DEIR/EIS Does Not Fully Account for Socioeconomic Impacts in the Sacramento Region

The DEIR/EIS is based on operations of Folsom Reservoir that would have significant socioeconomic effects, but does not describe or analyze those effects or their environmental consequences. As discussed above, the hydrologic modeling on which the DEIR/EIS's environmental analysis is based assumes that USBR would, and would be allowed, to operate Folsom Reservoir so that it would be incapable of providing water supplies for communities located adjacent to the reservoir in approximately 10 percent of years. Hydrologic modeling of all of the DEIR/EIS's action alternatives then is based on that assumption. As also discussed above, the DEIR/EIS's hydrologic modeling probably underestimates the impacts of BDCP implementation on Folsom Reservoir storage because that modeling does not account for adjustments in responsibilities for Delta conditions under the COA and also does

[6] As elsewhere described, this projected reservoir operation is completely unrealistic and objectionable.

not depict scenarios drier than the 90 percent exceedance scenario. The current water year is drier than the 90 percent exceedance scenario.

Any scenario in which Folsom Reservoir would be unable to provide the primary water supply for the 500,000 people who currently rely on the reservoir would be highly likely to have significant socioeconomic impacts. Inadequate water supplies discourage economic growth and can lead to depopulation of areas that previously relied on the supplies that have become inadequate. These socioeconomic effects would be significant in themselves and also probably would generate significant resulting environmental effects. If the areas near Folsom Reservoir were to be demonstrated to have inadequate water supplies, then there probably would be resulting growth inducement in other parts of the Sacramento region with more reliable water supplies. In particular, such a shift probably would increase demands for development in parts of the Sacramento region with reliable groundwater, which also tend to be areas with agricultural and vernal pool resources and sensitive species like giant garter snake. In addition, adverse socioeconomic effects in the communities adjacent to Folsom Reservoir could affect the availability of recreational opportunities on the reservoir, which is one of the most heavily used resources in the State Parks system.

Given the CVP operations assumed by the DEIR/EIS's hydrologic modeling and continued through the DEIR/EIS's analysis of all alternatives' effects, NEPA and CEQA require that the DEIR/EIS analyze socioeconomic effects in the Sacramento region and indirect environmental effects on at least hydrological, terrestrial and agricultural resources. The DEIR/EIS's socioeconomic analysis, however, is limited to the statutory Delta. (DEIR/EIS, pp. 16-1 to 16-29.) The DEIR/EIS's growth inducement chapter indicates that no general plans in the Sacramento region were reviewed as part of that chapter's analysis. (DEIR/EIS, p. 30-101, Table 30-34.) The DEIR/EIS fails to analyze the socioeconomic effects within the Sacramento region of the Folsom Reservoir operations that it assumes USBR would implement under the BDCP or the indirect environmental impacts resulting from those socioeconomic effects, in violation of NEPA and CEQA.

2. The Socioeconomic Impact Analysis Should Be Expanded to the Entire Project Area

Without explanation, the DEIR/EIS limits the analysis of socioeconomic impacts to Delta counties (Sacramento, San Joaquin, Yolo, Solano, and Contra Costa Counties). However, as noted elsewhere in the DEIR/EIS, the BDCP impacts a much larger area. For example, Chapter 30 (Growth Inducement and Indirect Effects) describes the environmental setting/affected environment as including eight of the ten hydraulic regions of the state: San Francisco Bay, Central Coast, South Coast, Sacramento River, San Joaquin River, Tulare Lake, South Lahontan, and Colorado River. BDCP's growth inducing impacts are described for each of these eight regions. (See, e.g., DEIR/EIS, Table 30-26, p. 30-83.)

The socioeconomic impacts analysis is inadequate because it fails to analyze the entire environmental setting/affected environment of the proposed project and alternatives. In particular, analysis of the socioeconomic impacts to areas upstream of the Delta must be

undertaken. The DEIR/EIS, discussing only Delta counties, concedes that "[p]otential social impacts and impacts on the community character may result from changes in employment, income, and changes in recreational uses and opportunities" resulting from BDCP. (DEIR/EIS, p. 16-42.) The DEIR/EIS, applying the broader environmental setting, also concludes that there will be recreational impacts in reservoir and lake elevations resulting in substantial reductions in recreational opportunities and experiences at North- and South-of-Delta Reservoirs. (DEIR/EIS, p. 15-274.) The DEIR/EIS recognizes that socioeconomic impacts can result from changes in recreational uses and opportunities in Delta counties, identifies potential recreational impacts to North-of-Delta reservoirs, but then fails to analyze the accompanying socioeconomic impacts to the communities around these reservoirs in violation of NEPA and CEQA.

Additionally, as described above and in the MBK Report, the BDCP's modeling errors underestimate and generally minimize the quantity of water diverted from North-of-Delta reservoirs. The socioeconomic impacts analysis should be expanded to include the entire project area and should incorporate accurate projections of North-of-Delta reservoir conditions under BDCP to fully assess and describe such impacts.

H. The DEIR/EIS Fails to Adequately Analyze Potential Growth Inducing Impacts

An EIR must discuss the ways in which a proposed project could foster growth. (CEQA Guidelines, § 15126.2(d).) The DEIR/EIS states that "[i]ndirect growth could occur if an alternative were to result in increased deliveries of reliable water supplies" (p. 30-38) and Table 30-26 sets forth the growth potential associated with deliveries of each of the Alternative 4 scenarios compared to existing conditions and the no action alternative. (DEIR/EIS, p. 30-83.) As discussed above and in the MBK Report, the BDCP's modeling errors underestimate the average amount of water exported from the Delta by approximately 214,000 AFY. This, in turn, inappropriately skews and minimizes the ways in which the BDCP fosters growth by increasing deliveries of reliable water supply. The DEIR/EIS must be revised to accurately evaluate the Plan's potential to induce growth using the correct volumes of water that would be exported from the Delta under the BDCP.

I. The DEIR/EIS Fails to Properly Analyze the BDCP's Cumulative Impacts

An EIR must discuss a project's cumulative impacts that are created as a result of the combination of the project evaluated in the EIR together with other past, present and probable future projects causing related or cumulative impacts. (CEQA Guidelines, §§ 15130(a)(1), (b).) Under CEQA, the "project" means the "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, ..." (*Id.*, § 15378(a).) Similarly, under NEPA, cumulative effects must be analyzed for the whole of the "action" when added to other past, present, and reasonably foreseeable future actions. (40 C.F.R. § 1508.7.)

The DEIR/EIS fails to consider the cumulative impact that would result from the Bay-Delta Water Quality Control Plan update currently being developed by the SWRCB. The update, being addressed in phases, seeks to modify water quality requirements in the Bay-Delta, change water rights in the Bay-Delta and tributaries, and implement flow objectives for the Bay-Delta and tributaries. The SWRCB's ongoing efforts to modify the Bay-Delta Water Quality Control Plan are briefly described in the DEIR/EIS and are a probable future project for purposes of CEQA cumulative impact analysis. (See DEIR/EIS, p. 8-19). However, the potentially significant cumulative effects of the Plan update are not described in the cumulative effects analysis of Water Supply (see DEIR/EIS Ch. 5, § 5.3.4), Water Quality (see DEIR/EIS Ch. 8, Table 8-73), and are not described, analyzed, or even listed in Appendix 3D (see DEIR/EIS Appendix 3D-A, "Descriptions of . . . Cumulative Impact Analysis for the BDCP EIR/EIS"). The DEIR/EIS's failure to evaluate the potential for the BDCP, along with modifications to the Bay Delta Water Quality Control Plan, to result in significant cumulative impacts violates CEQA and NEPA.

J. The D EIR/EIS Fails to Properly Analyze Alternatives to the BDCP

CEQA requires that an EIR include a "reasonable range" of potential alternatives "to allow meaningful evaluation, analysis, and comparison with the proposed project." (CEQA Guidelines, §§ 15126.6(a), (c).) Under NEPA, an EIS "should present the environmental impacts of the proposal and alternatives in comparable form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." (40 C.F.R. § 1502.14.) The uncertainty surrounding critical aspects of the BDCP, such as the decision tree and adaptive management processes, make it impossible to know what the likely outcomes will be under each alternative and thus to meaningfully evaluate and consider alternatives, in violation of CEQA. Similarly, the inadequate project description violates NEPA by not "sharply defining" the issues to provide a clear basis for the choice among alternatives. The vagueness and uncertainty permeating the description of the BDCP in the DEIR/EIS precludes a meaningful consideration of alternatives because the public and decisionmakers are unable to assess the relative merits of the proposed project measured against alternatives. The lack of an accurate, stable and finite description of the preferred project also prevents the public and decisionmakers from determining if the alternatives set forth in the EIR/EIS are reasonable or if a new alternative could better satisfy project objectives with fewer or different environmental impacts.

VI. CONCL USION

Both the BDCP and the DEIR/EIS fail in their fundamental purpose. As stated by its proponents, the purpose of the BDCP is to improve the reliability of water supplied through the Sacramento-San Joaquin Delta while improving ecosystem health and ensuring long-term protection of threatened and endangered fish species. The BDCP falls far short of these goals. Further, the DEIR/EIS is fundamentally deficient.

The current BDCP draft is based on flawed hydrologic modeling and erroneous and biased scientific analysis. Significant errors in the underlying model, from which all effects

were analyzed, call into question the analyses and conclusions throughout the entire BDCP and the DEIR/EIS. Indeed, the BDCP hydrologic model reveals that much of the text of the BDCP and DEIR/EIS are contradicted by information in the model, that some effects are understated or ignored completely, and that operations in the model violate the operational rules contained in the BDCP as currently proposed.

The problems with the model, which underpins the Plan and environmental review, are especially concerning because the DEIR/EIS indicates that the BDCP will result in dozens of significant and unavoidable impacts. The residents and communities in the Sacramento Valley will bear a disproportionate burden of these impacts. Substantial questions have been raised about the BDCP's ability to meet any of the required standards for protecting listed species. And the BDCP depends on uncertain and speculative funding sources, which may result in those not benefiting from the BDCP's assurances having to shoulder a significant portion of its costs. As such, it does not meet any of the essential criteria for approval of an HCP or NCCP.

The DEIR/EIS also fails to summarize and convey information essential to the understanding of project impacts in a manner reasonably calculated to inform the readers and decisionmakers, in violation of NEPA's readability requirement and in violation of CEQA's requirement that documents adequately inform the public of the scope and potential impacts of a proposed project. The DEIR/EIS thus fails to provide sufficient, meaningful information about many of the Project's adverse effects, and it omits consideration of many impacts of concern to the residents of the Sacramento Valley.

Given these shortfalls, among others, the BDCP and DEIR/EIS fail to adequately provide the requisite accurate environmental documentation necessary for the local citizenry and public decisionmakers to reach an informed and thoughtful decision regarding the BDCP under NEPA, CEQA, and the state and federal Endangered Species Acts. The failure to provide sufficient information about the BDCP or credible evidence and objective analysis to support the DEIR/EIS's impact determinations has deprived the public of a meaningful opportunity to understand and comment on the project's substantial adverse impacts. Correcting these errors will require the addition of significant new information and, thus, the DEIR/EIS must be revised and recirculated for public review. (CEQA Guidelines, § 15088.5(a).)

Exhibits:

Exhibit A: List of Commenting Parties

Exhibit B: Latour, R., Ph.D., *Technical Review of the Bay-Delta Conservation Plan (BDCP) and Related Environmental Impact Review (EIR)*, July 9, 2014

Exhibit C: February 26, 2014 letter from Vivian Helliwell, Chairman, to Charlton H. Bonham

Exhibit D: Vogel, D., *Comments on the Public Draft Bay-Delta Conservation Plan (BDCP) and Draft BDCP Environmental Impact Report/Environmental Impact Statement*, June 6, 2014

Exhibit E: Delta Science Program Independent Review Panel, *Report, BDCP Effects Analysis Review*, *Phase 3*, March 2014

Exhibit F: MBK Engineers and Daniel B. Steiner, Consulting Engineer, *Review of Bay Delta Conservation Plan Modeling,* July 11, 2014